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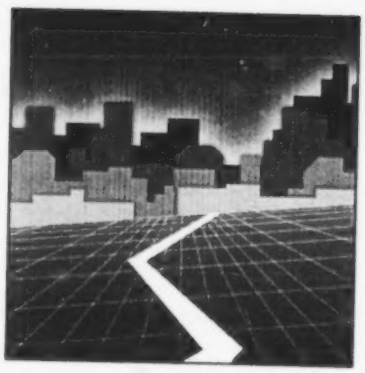
Analytical Paper

Trends and Conditions in Census Metropolitan Areas

Ten Things to Know About Canadian Metropolitan Areas: A synthesis of Statistics Canada's Trends and Conditions in Census Metropolitan Areas Series



By Andrew Heisz

Business and Labour Market Analysis Division
24th floor, R.H. Coats Building, Ottawa, K1A 0T6

Telephone: 1 800 263-1136

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Trends and Conditions in Census Metropolitan Areas

This series of reports provides key background information on the trends and conditions in Canadian Census Metropolitan Areas (CMAs) across a number of dimensions. Subjects covered include demographics, housing, immigration, aboriginal persons, low income, economic conditions, health, location of work and commuting mode, and culture.

The objective of these reports is to provide statistical measures of trends and conditions in our larger metropolitan areas, and neighbourhoods within them. These measures will be available for use in city planning and in policy assessments of what works to create a healthy city.

Statistics Canada has worked on this project in collaboration with Cities and Communities, Infrastructure Canada (formerly Cities Secretariat, Infrastructure Canada), with financial assistance from 14 other departments.

This project is being conducted under the direction of Doug Norris and Garnett Picot at Statistics Canada.

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Statistics Canada
Business and Labour Market Analysis Division

Trends and Conditions in Census Metropolitan Areas

Ten Things to Know About Canadian Metropolitan Areas: A synthesis of Statistics Canada's Trends and Conditions in Census Metropolitan Areas Series

Andrew Heisz

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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Executive summary

The "Trends and Conditions in Census Metropolitan Areas" series of reports provides key background information on Canadian census metropolitan areas (CMAs) for the period 1981 to 2001. Based primarily on census data, this series provides substantial information and analysis on several topics: low income, health, immigration, culture, housing, labour markets, industrial structure, mobility, public transit and commuting, and Aboriginal people. This final assessment summarizes the major findings of the eight reports and evaluates what has been learned. It points out that the series has three key contributions. First, it details how place matters. Census metropolitan areas differ greatly in many indicators, and their economic and social differences are important factors that define them. Accordingly, policy prescriptions affecting cities may need to reflect this diversity. Second, the series contributes substantially to the amount of data and analysis needed to make accurate policy assessments of what may be ailing in Canada's largest cities and where each problem is most acute. Third, it provides benchmarks against which future data—most notably data from the 2006 Census—can be examined. This summary also briefly discusses some subjects which were not covered in the series, identifying these as data gaps, or areas where more research is needed.

Introduction

Canada is the world's second largest country, with 230,000 kilometres of coastline, and with large expanses of virtually uninhabited mountains, forest and polar regions. While many have claimed that the Canadian identity is defined by its hinterland, the Canada that most Canadians experience from day to day is urban. In 2001, about two-thirds of Canada's 30 million people lived in one of 27 of the country's most urbanized areas. These 27 areas, called census metropolitan areas (CMAs),[1] not only account for the most population, they have also accounted for virtually all of Canada's population growth over the past two decades. Between 1981 and 2001, the population in CMAs together grew by nearly 38%, compared to just 4% in the non-CMA parts of Canada.

While it is true to say that most Canadians live in an urban setting, not all urban settings are identical. Toronto, Canada's largest CMA, grew by 55% (or by 1.6 million people) between 1981 and 2001, largely because of a massive inflow of immigrants.[2] Such a growth has caused the CMA's boundary to expand,[3] formed challenges for the delivery of services, and placed strain on the labour market. Abbotsford, Canada's youngest and fastest growing CMA, maintains its Fraser Valley agricultural roots, but one-third of its workforce commutes into the nearby CMA of Vancouver, travelling an average of 35 km daily each way.[4] Residents of Regina, Saint John and Trois-Rivières surely face many common issues, but the varied unemployment rates in each CMA (5.0%, 7.9% and 10.7% in 2004 respectively) suggest that it is more their differences that define them.

Such differences underscore the need for analysis at the city level. This need has been partially filled by Statistics Canada's series, Trends and Conditions in Census Metropolitan Areas. This series provided substantial information and analysis at the CMA level (and below) on low income, health, immigration, culture, housing, labour markets, industrial structure, mobility, commuting, and Aboriginal people. In June 2005, Statistics Canada published the final study in the Trends and Conditions in Census Metropolitan Areas series, closing the first phase of the series and prompting an evaluation of what has been learned from these reports. There is also the opportunity to synthesize the reports, and indicate connections between them where appropriate. Accordingly, this paper is both a summary and synthesis of the major findings of the eight CMA reports.

1. A census metropolitan area (CMA) is the area formed by one or more adjacent municipalities centred on a large urban area (known as the urban core). The census population count required for an urban core to form a CMA is at least 100,000. To be included in the CMA, other adjacent municipalities must have a high degree of integration with the central urban area, as measured by urban flows derived from census data on place of work. The universe of CMAs as of the 2001 Census is: St. John's, Halifax, Saint John, Chicoutimi–Jonquière, Québec, Sherbrooke, Trois-Rivières, Montréal, Ottawa–Hull, Kingston, Oshawa, Toronto, Hamilton, St. Catharines–Niagara, Kitchener, London, Windsor, Sudbury, Thunder Bay, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Abbotsford, Vancouver and Victoria.
2. In this report, the term 'immigrants' refers to those who immigrated from another country, while 'internal migrants' refers to those who moved from another location in Canada. About two-thirds of Toronto's population growth between 1981 and 2001 was associated with immigrants who arrived during that time, while the remaining one-third was associated with other factors.
3. Fully 70% of Toronto's population growth between 1991 and 2001 took place beyond 20 km of the city centre.
4. This measured the direct line distance from home to work. The actual road distance travelled would be longer.

This report is structured around a 'top 10 list' of insights obtained from the Trends and Conditions in Census Metropolitan Areas series:[5]

1. Population growth rates vary, as do the sources of growth in metropolitan areas.
2. Employment in urban areas is shifting from goods to services production.
3. Large CMAs are centres of culture and computer and telecommunications industries.
4. There are tremendous differences in the labour market strength of CMAs.
5. Immigrants are changing the face of Canada's largest urban centres.
6. Aboriginal people are doing better, but still lag behind others across many indicators.
7. Income inequality and spatial income polarization have risen.
8. Many CMA residents live in housing they cannot afford.
9. Canadian CMAs have unequal health conditions and outcomes.
10. Commuting patterns have become more complex, creating a challenge for public transit.

The eight reports offer a substantial amount of information for those interested in city development in Canada over the past two decades. This is not a complete list of the challenges facing Canadian urban areas. However, understanding these issues would be an important step towards designing programs and policies to ensure that they remain liveable places in the future. Nevertheless, due to time constraints, budget restrictions, or data unavailability, some important areas could not be covered. This report also acknowledges this by discussing three areas not covered in the series:

- fiscal issues facing metropolitan areas,
- infrastructure issues, and
- environmental issues.

Uneven population growth

While more and more of Canada's population live in CMAs, not all CMAs are growing equally. Annual growth rates between 1986 and 2004 ranged from a 0.3% per year decline in Chicoutimi–Jonquière to a growth of 3.2% per year in Abbotsford (Figure 1). Oshawa, Calgary, Toronto and Vancouver likewise had growth rates of more than 2% per year. St. John's, Winnipeg, Trois-Rivières, Regina, Sudbury, Saint John, and Thunder Bay each had growth rates below 0.5% per year.

The economic, demographic, historic and societal factors underlying differences in CMA growth are too numerous to address here. However, some insights are gained from examining the sources of population growth by separating population growth into those parts due to natural increase, immigration and net internal migration. The latter two factors, immigration and net internal migration, are found to be very important in understanding differences in CMA growth rates.

Immigration contributed strongly to growth in the gateway CMAs of Toronto and Vancouver between 1986 and 2004 (Figure 2). In Toronto, immigration alone caused Toronto to grow 1.7% per year, an amount equivalent to 80% of its total growth rate. Also in Toronto, natural increase (births minus deaths) accounted for 0.8% per year growth, among the highest in the country, while other factors—most importantly net internal migration[6]—contributed to a decline in Toronto's population of 0.5% per year. Vancouver's numbers were similar: immigration caused a 1.4% per year growth, and natural increase was also important.

5. The idea of a 'top 10 list' was inspired by "A Top Ten List of Things to Know about American Cities," by Wyly, Glickman, and Lahr (1998).
6. Net internal migration is the difference between the number of internal migrants gained by a CMA and the number of internal migrants losts by a CMA.

Outside of the two gateway CMAs described above, immigration played a secondary role in population growth. Oshawa's main source of growth was net internal migration. Its proximity to the expanding CMA of Toronto means that many people move from Toronto to Oshawa and commute back to Toronto. In fact, in 2001, nearly 10% of the population of Oshawa lived in Toronto five years earlier, and of the 57,000 Oshawa residents who work in Toronto, nearly 11,000 had lived in Toronto five years earlier. Calgary and Kitchener achieved their population growth through a balanced mix of natural increase, immigration and net internal migration.

CMAs that grew more slowly tended to lose population to internal migration, offsetting any gains they made from natural increase or immigration. Between 1986 and 2004, Regina and Chicoutimi–Jonquière each lost 0.6% per year of their population to net migration. Analysis for the period from 1996 to 2001 indicates that most migrants had moved to larger CMAs: Chicoutimi–Jonquière lost population to Montréal and Québec, and Regina lost population to Calgary, Edmonton and Vancouver. The other slow-growing CMAs, Sudbury, St. John's, Saint John and Thunder Bay, also lost population to internal mobility.

Internal migration among the university educated population in CMAs

An important feature of CMA populations is their high level of education. In 2001, 23.1% of CMA residents had a university degree—far above the 10.9% university education attainment of the non-CMA part of Canada. The rate of university education ranged from 11.6% in Abbotsford to 30.3% in Ottawa–Hull.

University educated people are more mobile than most others, especially when they are young. As a result, many of the same centres that had net outflows of migrants also lost more university-educated migrants than they gained in return. In other words, these smaller centres experienced a 'brain drain,' exporting university graduates. In conducting such an analysis one would not want to include moves among the youngest university graduates, or else CMAs with large university sectors like Kingston and Victoria would seem to be net losers of university graduates. By focussing on university graduates who were at least 30 years old, however, one can look at the group of people who were most likely already out of university for some time before moving. When this was done, it was found that Regina, Sudbury and Saskatoon topped the list of CMAs that lost the largest share of their university-educated population. For example, between 1996 and 2001, Regina lost 1,300 more university graduates to other urban centres than it gained in return. This amounted to 7.0% of Regina's 2001 university-educated population in this age group.

Decentralized population growth in CMAs

As noted above, population growth varied across CMAs. It is also notable that population grew differently within CMAs—most CMAs grew faster in areas away from the city centre (Figure 3). Relatively steady populations in the downtown core meant that the downtown population, as a share was declining. Further, in several CMAs the population in the downtown core actually declined. Population in the CMA core (defined as a circle with 5 km radius centred at the core municipality's city hall) declined more than 5% in the CMAs of St. John's, Saint John, Trois-Rivières, Sudbury and Thunder Bay, while smaller declines were noted in Halifax, Chicoutimi–Jonquière, Winnipeg, Regina and Edmonton. Declining central cities have been a feature of many U.S. cities in the Northeast and Midwest, and has been associated with deepening social and spatial polarization in that country (Wyly, Glickman and Lahr, 1998).

The other side of suburban population growth is the impact this has had on suburban municipalities and increasing sprawl. Between 1996 and 2001, 5 of the 15 fastest-growing municipalities with population of over 10,000 people were suburban municipalities of Toronto (Vaughan, Richmond Hill, Caledon, Brampton and Markham), 3 were suburban municipalities of Calgary (Cochrane, Rocky View No. 44,[7] and Airdrie) and 2 were suburban municipalities of Montréal (Blainville and Mirabel). Over a longer horizon, in

7. Rocky View No. 44 is the district municipality combining all the towns and cities in the CMA that are not otherwise identified.

Toronto 588,600 more people lived farther than 20 km from the city centre in 2001 than 1991, while in Calgary, 63,800 more people lived more than 15 km from the city centre. This suburban growth has implications for traffic and commuting issues, as we discuss later in this summary.

The rise of the services economy

It is well known that the economy has transformed in recent decades. One of the most visible elements of this transformation is the decline in the importance of manufacturing employment and the corresponding rise in importance of business services—a trend that is pronounced in CMAs. Between 1986 and 2001, overall employment in CMAs grew 29%, but employment in manufacturing stalled, growing by just 1%. In contrast, employment in business services industries grew 72%. The growth in business services employment was so fast that, by 2001, more workers in metropolitan areas were employed in this industry than in manufacturing.

The high concentration of business services is one factor that distinguishes CMAs from the rest of Canada. In CMAs, 17% of employment in 2001 was in the business services sector, compared with just 8% outside of CMAs. This concentration varies among CMAs: Toronto had the highest concentration at 22% of employment in 2001 (Figure 4). Other large CMAs also had high concentrations of business services employment. Calgary, Montréal, Ottawa–Hull and Vancouver each had between 17% and 19% of employment in business services in 2001.

While employment shifted away from manufacturing in all CMAs, many CMAs retained vibrant manufacturing sectors. In Sherbrooke, Hamilton, Kitchener and Windsor, about one in five (or more) workers were employed in manufacturing in 2001.

One reason that this shift in employment away from manufacturing is important is that manufacturers have been the traditional employer of lower-skilled workers, and manufacturing employment in some ways represents the 'good jobs' that were lost in the 1990s economic restructuring. In fact, an examination of the 1986 and 2001 censuses reveals many things about industry and employment of low-educated workers. Looking only at workers employed full-year and full-time (FYFT), the data show that workers with at most a high school education are less often finding work in manufacturing and more often working in consumer services employment. From 1986 to 2001, the share of low-educated FYFT workers in manufacturing fell from 26% to 23%, while the share working in consumer services rose from 23% to 26%. At the same time, jobs in consumer services were relatively poorly paid. In 2001, a low-educated FYFT worker in consumer services earned about $10,000 less than a low-educated FYFT worker in manufacturing ($27,300 in consumer services versus $37,600 in manufacturing).

The shift towards business services employment mainly benefits workers with more education. In 2001, university graduates were more than two and a half times as likely to work in business services as workers with a high school education or less, and jobs in business services were the highest paid, earning 25% more on average.

Location of manufacturing and business services

While the number of manufacturing jobs did not change much between 1986 and 2001,[8] their location did change. First, manufacturing activities shifted among CMAs. Second, manufacturing employment shifted away from the city centres of most metropolitan areas.

8. According to census data, there were about 1.3 million jobs in manufacturing in both 1986 and 2001. Manufacturing grew faster in the non-CMA areas, rising by 40,000 jobs to 720,000 jobs in 2001.

From 1986 to 2001, the location of manufacturing jobs became more dispersed among CMAs. The Golden Horseshoe CMAs of Oshawa, Toronto, Hamilton and St. Catharines–Niagara together comprised 43.2% of manufacturing employment in CMAs in 1986. By 2001, this had declined to 37.9%. Québec, Ottawa–Hull, Calgary, Edmonton and Vancouver picked up the difference, increasing their respective shares of manufacturing by more than one-half a percentage point each. Calgary gained the most, boosting its manufacturing share from 2.3% to 3.6% (Figure 5).

While interesting, such numbers do not tell us how important manufacturing was to the CMA. The population of Calgary also grew quickly over this period, so an increasing share of the manufacturing pie may not be surprising. Furthermore, in the context of a declining share of all employment in manufacturing, it is interesting to know in what CMAs manufacturing is becoming more concentrated.

The 'location quotient' is an index that reveals the degree to which employment in a particular industry is concentrated in a CMA compared with the average for all CMAs. The CMA average is given an index of 1, and a value above 1 indicates that employment is concentrated to an above-average degree in that CMA. An increase in the location quotient over time would indicate that manufacturing has become more concentrated in the CMA. Sherbrooke showed the largest gains in location quotients for manufacturing, going from 10% above average in 1986 to 50% above average in 2001 (Figure 6). Windsor showed the second largest gain, from 85% above average to 110% above average over the same period. It may be that the close proximity of both these CMAs to the U.S. border was an advantage to their manufacturing sectors. Manufacturing concentration declined the most in Oshawa, a fact consistent with the rising importance of services employment to Oshawa (including those services workers living in Oshawa and commuting to Toronto).

Business services grew in a balanced fashion in CMAs: no CMA gained a large share of employment in this industry. Furthermore, business services were much less concentrated in a relatively few CMAs compared with manufacturing. While location quotients for manufacturing were often above 1.5 and below 0.5, location quotients for business services were more clustered around the value of 1, suggesting that more CMAs serve to gain from the growth in this well-remunerated sector. Nevertheless, business services were more concentrated in Ottawa–Hull, Toronto, Calgary, and Vancouver—both in 1986 and in 2001. Montréal, despite being the second largest CMA, had only the fifth highest concentration of business services among CMAs.

A second important element of industrial restructuring is the impact it has had on the location of employment within the metropolitan area. Jobs in urban areas are still strongly concentrated in the downtown core; however, in virtually all metropolitan areas employment increased at a faster pace in locations farther from the city centre. This change was characterized, in part, by a decline in the concentration of manufacturing and retail services jobs in the downtown core and a corresponding rise in these jobs in the suburbs. In Toronto, for example, the proportion of manufacturing workers in areas less than 5 km from the city centre fell from 8% in 1996 to 5.2% in 2001, while the proportion of manufacturing workers in areas at least 20 km from the city centre rose from 51% to 57%.[9] Movement of manufacturing and retail out of the downtown core presents opportunities and challenges to cities. The decline of manufacturing, and industrial activities in general, away from the downtown core frees resources for other uses; however, the buildings and land left behind are often unsuitable for contemporary needs, and may require decontamination or other decommissioning expenses before they can be put to other uses (Filion and Rutherford, 2000). The rise of retail in the suburbs of cities has implications for land use—as new retail locations requiring large sales floors and parking lots become the norm—as well as for infrastructure and traffic congestion, as more car traffic heads for these suburban locations.

9. The level of manufacturing employment in the Toronto core correspondingly fell by 9,400.

At the same time, the downtown cores of Canadian metropolitan areas became more concentrated in higher paid services—particularly in the public and business services industries. These jobs tend to be highly skilled and better-paid than jobs in the suburbs, with the end result of a declining skill and earnings gradient leading from downtown to the suburbs, which has become steeper over time. For example, in 1996, a worker employed in downtown Vancouver earned 5% more than an average worker did in that metropolitan area. By 2001, a worker employed in downtown Vancouver earned 10% more.

Culture and computer and telecommunications industries concentrated in CMAs

Two industrial sectors that have received substantial attention are the culture sector and the computer and telecommunications (CT) sector. These sectors are credited with bringing innovative, highly skilled and talented people into areas, fostering investment and contributing to a high quality of life. Canada's largest urban areas are centres for the culture and CT sectors, with the majority of employment concentrated in Canada's largest urban areas, but significant shares of employment are found in smaller CMAs as well.

The culture sector includes (by size of national employment) printing; newspaper, periodical, book and database publishing; advertising and related services; and motion picture and video industries among its largest industries. Canada's three largest CMAs, Toronto, Montréal and Vancouver, are often seen to be the culture capitals of the nation, and indeed they led all CMAs in number of workers in culture industries in 2001. While these three CMAs had slightly more than one-half of the total CMA labour force (52%), they had a disproportionately large share of culture industry employment, comprising nearly two-thirds (64%) of the employment in this sector. They also had the highest percentages of their labour forces employed in culture industries (Figure 7). Altogether, the culture industries accounted for 4.6% of all CMA employment in 2001; however, the shares vary widely among CMAs, from 6.1% in Toronto to 1.8% in Windsor. Although the size of the culture sector was larger in the largest CMAs, Victoria and Halifax were two smaller CMAs that had relatively large sectors, each with 4.3% of their employment in this sector.

CMAs appear to specialize in particular culture segments. Toronto was the nation's dominant force for culture industries,[10] with a large cultural workforce involved in industries such as advertising, printing, motion picture and video industries, publishing and specialized design services. Montréal formed the second largest culture industry,[11] but it had the largest performing arts sector. It also had more firms than Toronto in several culture industries, including film production, performing arts, book publishing and sound recording. Other metropolitan areas formed smaller, but notable, 'culture clusters.' These included Vancouver and, to a lesser extent, Halifax, for domestic film production. Vancouver, Ottawa–Hull and Winnipeg earned sizeable shares of performing arts revenues, and St. Catharines–Niagara had the highest per capita revenues.

While this gives an indication of the influence of culture industries, some individuals working in culture industries are not employed in culture occupations. Hence, employment in culture occupations should be looked at separately from employment in culture industries. Culture occupations include graphic designers and illustrators, musicians and singers, authors and writers, and artisans and crafts persons as their largest groups. Vancouver and Victoria had the highest shares of workers in cultural occupations, accounting for 2.7% of their workforces in 2001.

There are a wide range of cultural occupations and, accordingly, annual earnings of cultural workers vary widely. Toronto had a high percentage of architects among its labour force, relative to other CMAs, and this group had an average employment income of $60,100 in Toronto in 2000. The same holds for producers, directors and choreographers, who had an average employment income of $48,100. The culture occupation with the lowest pay was artisans and crafts persons, with earnings of $21,200 for women and $27,900 for men. Vancouver and Victoria had relatively high shares in this category.

10. Toronto had the largest culture industry in terms of total employment, wages, and earned revenues.
11. Montreal had the second largest culture industry in terms of employment, wages and earned revenues.

The computer and telecommunications sector

The computer and telecommunications (CT) sector often provides well-remunerated and high value-added jobs, and generally includes more knowledge workers than many other sectors of the economy. In fact the CT sector formed the core of what analysts termed the 'knowledge-based' or 'new' economy over the 1990s and early 2000s. Hence, the creation of jobs in this sector is a cornerstone of economic development strategies in many cities.

This sector was hit hard in the early 2000s when demand for CT equipment peaked and later fell. Nevertheless, as of 2003, the sector was still large. Employment in the CT sector in all 27 CMAs combined was unchanged at 300,000 jobs between 1987 and 1993, rose to near 550,000 jobs by 2001, and declined slightly between 2001 and 2003. The increase of employment of 72% between 1989 and 2003 contrasts with the overall increase observed in CMA employment of just over 20%. From 2001 to 2003, employment in the CT sector in CMAs fell by about 50,000 jobs.

CT employment was highly concentrated in a few of Canada's largest CMAs (Figure 8). Together, Toronto, Montréal, Vancouver and Ottawa–Hull comprised 56% of all CT employment in 2003 (compared with 29% of all CMA employment). While the large CMAs account for the most CT employment, they also bore the brunt of that sector's cyclical fluctuations.

While the sector was highly concentrated in a few CMAs, other smaller CMAs still had significant CT employment relative to their size. Regina, with 5.4% of its employment in CT in 2003, had a relatively high CT specialization for its size. Halifax, Kitchener, and Saint John were three other smaller CMAs that had more than 4% of their employment in the CT sector at the peak of the CT boom in 2001. CT had a relatively small employment share in non-CMA regions, comprising just 1.6% of non-CMA employment in 2001.

After the 2001 downturn, the CT sector became less important in most CMAs; however, as a fraction of employment in the CMA, it remained high in 2003 compared with 1989. In Ottawa–Hull, for example, the CT sector represented 8.4% of CMA employment in 2003, up from 5.6% in 1989.

The CT sector is a combination of selected industries from both the goods and services sectors. Interestingly, employment growth across the current cycle was centred in CT services and not CT manufacturing. From 1993 to the 2001 peak, more than 230,000 jobs were created in the CT services sector, compared with about 40,000 in the CT manufacturing sector.

Strong and weak labour markets in CMAs

CMAs vary widely in their labour market strength. These differences were large, but not as great as they had been two decades earlier. This indicates that a movement towards more labour market equality had occurred among urban centres during this period.

For example, in 1981, the metropolitan area with the lowest employment rate in the nation was Chicoutimi–Jonquière, where only 47.6% of the population aged 15 and older had a job. On the other hand, Calgary had the highest employment rate at 73.2%. Two decades later, Chicoutimi–Jonquière still had the nation's lowest employment rate, but it had improved significantly to just over one-half (51.7%). In contrast, Calgary's rate had dipped to 71.6%. Likewise, Chicoutimi–Jonquière's unemployment rate fell from 15.8% to 12.4% during the 20-year period, while the unemployment rate in Calgary edged up from 3.2% to 4.9%.

Convergence in labour market characteristics also took place in such areas as youth unemployment rates, women's employment rates, and the shares of workers working full-year and full-time. The fact that the unemployment rate in Chicoutimi–Jonquière in 2001 was 2.5 times the rate in Calgary, however, indicated that labour markets in metropolitan areas at the turn of the millennium were still dominated by differences.

One feature of weak labour markets is that they tend to rely on more government transfers for their income. For example, residents of Chicoutimi–Jonquière in 2001 received 14% of their before-tax family income from government transfers, while residents of Calgary received just 5.1% (Figure 9). In fact, for every percentage point rise in a CMA's unemployment rate, the average share of family income received from transfers among CMA residents edged up by 0.6 of a point.

A second feature of weak labour markets is that they tend to lose population to other, stronger markets. Numerous empirical studies have shown that internal migration rates are positively related to regional wage and unemployment differentials. Figure 10 demonstrates this in a simple fashion by showing a CMA's net gains from internal migration against its unemployment rate for 2001, showing an apparent negative relationship between the unemployment rate in the CMA and the net gains from internal migration. The figures, however, do not explain all of the variation in net internal migration, indicating that other factors besides the local labour market strength are important. In some CMAs, most notably Regina, net internal migration is much more negative than unemployment rates alone would suggest.

A third feature of weak labour markets is that they tend to attract few immigrants—especially when the CMA is small. It is relatively uncommon for recent immigrants to choose their CMA of residence based on economic considerations. In fact, most chose their destination because family and friends were already living there. This is less the case for those who settled in smaller CMAs, who were more likely to report economic considerations as a reason for choosing to live in that CMA.

Immigrants: changing the face of Canada's largest urban centres

If there is one major socio-economic development in Canada that can be called 'distinctly urban', it is immigration. Between 1991 and 2001, Canada's population grew by 2.6 million people; 1.8 million persons immigrated to Canada during this period. Of these recent immigrants, virtually all (94%) settled in one of Canada's 27 CMAs, compared with 64% of the total population that lived there. This increased the share of 'recent immigrants' (those having immigrated in the 10 years preceding the census) in CMAs from 6.3% of the CMA population in 1991 to 9.0% in 2001.

Settlement was disproportionately located in the three largest centres—Toronto, Montréal and Vancouver. Together, they were home for 73% of the new arrivals. In 1981, only 58% of immigrants who had arrived in the previous decade settled in these three areas.

Central to the increasing concentration of recent immigrants within Canada's CMAs has been a shift in the source countries from which recent immigrants have arrived. The share of all recent immigrants arriving from East Asia and South Asia increased by 21 percentage points between 1981 and 2001, from 18% to 39%, while the share of recent immigrants from North America and Northern and Western Europe decreased commensurately. Immigrants from East Asia and South Asia have a high and increasing propensity to settle in Montréal, Toronto or Vancouver, and immigrants from these regions have accounted for an increasing share of all new arrivals in Canada. Conversely, immigrants from North America and Northern and Western Europe have a far lower propensity to settle in Montréal, Toronto or Vancouver.

Information from the Longitudinal Survey of Immigrants in Canada (LSIC) provides some insights on why immigrants settle where they do. When asked about why they chose to live in a particular city, the largest share of newly arrived immigrants (41%) cited the presence of a spouse, partner or family member in the area and an additional 18% cited the presence of friends. Clearly, familial and social networks

are primary considerations in the decision of where to live. Other factors, such as job prospects (14%), education prospects (5%), lifestyle factors (5%) and housing (4%) were cited by smaller shares of newly arrived immigrants.

The unique attributes of certain CMAs also play a role in attracting immigrants. Focussing on immigrants admitted to Canada in the economic class, evidence from the LSIC shows that 20% of those residing in Vancouver said that climate was an important factor in their decision regarding where to live. Of those living in Montréal, 19% said that language was an important consideration. These reasons were not among the top five reasons cited by economic class immigrants living elsewhere. Job prospects and business prospects were important considerations in the settlement decisions for economic class immigrants residing outside of Toronto, Vancouver and Montréal.

That immigration is an urban phenomenon goes beyond the locational decisions of immigrants themselves and is also evident in that the Canadian-born children of immigrants, that is, second-generation immigrants, also reside in large metropolitan areas. When all immigrants as well as second-generation immigrants are considered together, the extent to which people in Canada's largest CMAs have ties to immigration is even larger. The 2001 Census asked respondents who were aged 15 and over what country their father and mother were born in, thus giving a direct measure of second-generation immigrants for this age group. In addition to this, a good estimate of the number of second-generation immigrants under 15 could be gained from looking at the immigrant status of their parents. By this measure, almost three-quarters of Torontonians have some direct ties to immigration. Forty-four percent were immigrants themselves, another 18% were second-generation immigrants aged 15 and over and another 10% were children in families where one or both parents were immigrants (Figure 11). In Vancouver, 64% of the population were first- or second-generation immigrants.[12]

Moreover, projections indicate that this proportion will rise. In Toronto, where 44% of the population were immigrants in 2001, it was projected that 49% would be so by 2017. In Vancouver, the proportions were 38% and 44%, respectively. On a related point, the share of Torontonians who are visible minorities is projected to rise from 36% in 2001 to 50.6% in 2017. In Vancouver, the proportions were 36% and 49.2% respectively.[13]

Rapid population growth because of immigration may place stress on the provision of public services, such as education and public transit. This issue is discussed more fully in Statistics Canada 89-613-MIE-No. 3.

Immigrants and the labour market

A substantial body of research has shown that the economic welfare of immigrants deteriorated over the 1980s and 1990s. This change has been attributed to at least three factors: the change in source countries of the immigrants; a decline in returns to pre-immigration labour market experience; and a broader trend towards worse outcomes for all new labour market entrants (Picot and Sweetman, 2005). As a result, the rapid acceleration of the CMA population, which is rooted in immigration, places special pressures on its labour market.

At least three trends are of concern in the labour markets of CMAs. First, the employment rate for recent immigrants residing in CMAs fell from 78.2% in 1981 to 68.9% in 1991, then further to 68.0% in 2001 (Figure 12).[14] This drop was observed in most CMAs with large recent-immigrant populations. In contrast, employment in the Canadian-born CMA population improved; rates rose from 75.7% in 1981 to 80.1% in 1991 and then further to 83.2% in 2001. Employment rates for recent immigrants and the

12. In Vancouver, 38% of residents were immigrants, 19% were second-generation immigrants aged 15 and over, and 7% were children aged less than 15 with at least one parent who was an immigrant.
13. Statistics Canada (2005d).
14. These numbers compare the employment rates among 25- to 54-year-olds.

Canadian-born population were quite similar in 1981, but by 2001 they had diverged because of a rise in Canadian-born employment rates and a fall in recent immigrant employment rates. Given that recent immigrants make up a substantial proportion of the population in some CMAs, declining employment rates among recent immigrants will place some downward pressure on the overall CMA employment rate. In Toronto and Vancouver, the employment rate fell substantially only among recent immigrants, indicating that the CMA-wide fall from 1981 to 2001 in the employment rate in those CMAs was concentrated among recent immigrants.

Employment in the labour force can also be measured more broadly, by weeks worked over the previous calendar year (i.e., 2000) rather than during the single week prior to the census. Among recent immigrants who were employed during 2000, around one-half worked throughout the year on a full-time basis, meaning that many worked either on a part-time basis or for only part of the year. This compares with rates of around 75% for Canadian-born workers. Among recent immigrants, full-year full-time (FYFT) employment was more prevalent among those with higher levels of educational attainment and among those who had resided in Canada longer.

Skill utilization is a second trend. Immigrants are more likely than the Canadian-born to hold a university degree, and thus are an important source of human capital to CMAs. Recent immigrants with a university degree, however, were much more likely than their Canadian-born counterparts to be working in occupations that typically require no formal education. In Vancouver, for example, 31% of recent immigrants with a university degree were employed in jobs with low-skill levels, compared with only 13% of Canadian-born graduates. In most other urban centres, there was a difference of at least 10 percentage points between these groups. Among recent immigrants, female graduates were more likely than their male counterparts to be employed in moderate- or low-skilled jobs (Figure 13). Furthermore, differences between men and women were larger among recent immigrants than among people born in Canada.

A third labour market area where immigrants appear to be falling behind is in their earnings. In the past, immigrants to Canada started off with lower earnings than their Canadian-born counterparts, but with time and the accumulation of Canadian experience their earnings would all but catch up. For example, in the first few years after their arrival, male immigrants who arrived in Canada between 1975 and 1979 had earnings that were less than 85% of those of comparable Canadian-born workers. Some 21 years after their arrival, their earnings were nearly on par with their Canadian-born counterparts. There is growing evidence, however, that more recent groups of arrivals have not fared as well. Male immigrants who arrived in Canada between 1995 and 1999 had earnings in their first years after arriving that were less than 60% of those of comparable Canadian-born workers, indicating that they started off at a level that was relatively much lower than past immigrants. For these immigrants to even catch up, their earnings will have to grow at a much faster rate than they have for other immigrants in the past.

Aboriginal people: doing better, but gaps remain

According to the 2001 Census, 976,305 people identified themselves as members of at least one Aboriginal group—North American Indian, Métis or Inuit. Fully 28% of Aboriginal people lived in a CMA. Aboriginal people represented only about 1.3% of the total CMA population in 2001, but in some CMAs the share of the population that reported an Aboriginal identity was much higher: 9.1% of the population of Saskatoon, 8.4% of Winnipeg, 8.3% of Regina, 6.8% of Thunder Bay, 4.8% of Sudbury and 4.4% of Edmonton reported an Aboriginal identity. Projections of the Aboriginal population (CMA and non-CMA combined) indicate that the Aboriginal population is expected to grow by 1.8% per year—more than double the average population growth rate.[15]

15. Statistics Canada (2005c).

Well-known gaps exist between Aboriginals and non-Aboriginals along several indicators of economic and social well-being. These differences tend to be especially acute in western CMAs, where Aboriginal people make up the largest shares of the CMA population. For example, in 2001 the employment rate of Aboriginal people in Winnipeg was 65.3%, compared with 84.7% among non-Aboriginal people (Figure 14),[16] annual employment income was 68% of their non-Aboriginal counterparts,[17] and government transfers accounted for nearly twice as much of their income. Also, Aboriginal people have low-income rates nearly twice the CMA average. Urban Aboriginal children were also more likely to be situated in lone-parent families, exposing them to a high risk of being in low-income families.

Some Aboriginal people fare as well as their non-Aboriginal counterparts. For example, Aboriginal people in Montreal, Ottawa–Hull, Toronto and Calgary have employment rates that are comparable to the non-Aboriginal population. Also, Aboriginal people with a university degree typically have employment rates on par with non-Aboriginal university graduates (Figure 15). While a post-secondary education levels the playing field between Aboriginal and non-Aboriginal workers,[18] Aboriginal people lag behind in post-secondary completion rates. In 2005, 55.6% of non-Aboriginal persons had completed some form of post-secondary education, while only 39.9% of Aboriginal persons had done so.[19]

Furthermore, the Aboriginal population in CMAs is younger than the non-Aboriginal population. In Saskatoon, 38.2% of Aboriginals were aged 0 to 14, compared with 19.2% of non-Aboriginal people. While earlier it was indicated that education was a key to success in the labour market for Aboriginal people, the high school attendance rate of Aboriginal people aged 15 to 24 was 5 to 10 percentage points lower than their non-Aboriginal counterparts (depending on the CMA examined). Furthermore, projections indicate that by 2017 one of the biggest challenges facing the Aboriginal population will be the large number of persons aged 20 to 29 entering the labour market.[20]

One other dimension in which urban Aboriginal people differ from other CMA residents is in their level of mobility—both in and out of the CMA, as well as between locations in the CMA. The size of the flows of Aboriginal people in and out of a CMA is often called the 'churn' in the Aboriginal population. Between 13% and 23% of Aboriginal people in the western CMAs in 2001 had moved into their CMA since 1996, while 11% to 20% had moved out over the same period. Intra-CMA movement was also higher among Aboriginal people than others. In CMAs from Thunder Bay west, 35% to 50% of Aboriginal people reported having lived in another location in the same CMA one year earlier (Figure 16). This is in contrast to a level of intra-CMA mobility among the non-Aboriginal population of about 25% per year. High levels of mobility in the Aboriginal population place special pressures on service delivery agencies that face high turnover in their clientele. Furthermore, this mobility may lead to a less stable school environment for Aboriginal children.

Finally, there is some indication that the situation for urban Aboriginal people has improved in recent decades (see Statistics Canada 89-613-MIE-No.8 for more details). However, several challenges appear when examining trends among the Aboriginal population. First, inconsistencies in the census questions used in different years make data from 2001 only comparable to data from 1996 and 1981. Second, even when using comparable definitions, growth in the Aboriginal population is larger than what could be explained by the expected factors of birth, death and net migration. Evidence suggests that there has been an increase in the tendency for people to identify themselves as Aboriginal in more recent years. This would be the result of factors such as legislative changes to the definition of Indian status and an increased cultural awareness among Aboriginal people. It is thought that this phenomenon, called 'ethnic

16. This is the employment rate among 25- to 54-year-olds.
17. Annual employment income among those aged 15 and over.
18. Statistique Canada (2005a).
19. These numbers combine CMA and non-CMA populations. Statistics Canada (2005a).
20. Statistics Canada (2005c).

mobility,' has affected the reporting behaviour of higher-income more than lower-income Aboriginal people, older rather than younger, and more educated rather than less educated. As a result, trends from the census must be viewed with caution.

Rising inequality in Canadian cities

All Canadians share a heightened awareness of the importance of community life in the urban centres. Central to this is addressing poverty and social inclusion for all Canadians—including new immigrants and Aboriginal people. There are numerous approaches to defining and addressing these two ideas. The Trends and Conditions in Census Metropolitan Areas series looked at poverty and social inclusion from an economic perspective. The questions asked included: How much has the economic standing of most CMA residents changed over time? What share of CMA residents have substantially more or less income than others in their CMA? How has this changed over time? What share of CMA residents do not live in affordable housing? The housing issue is discussed in a separate section below; income, income inequality and low income will be discussed in this section.

For income trends, the 1980s can be generally described as a decade of improvement. Income rose for higher- and lower-income families (although they increased more for high-income families). The low-income rate in CMAs fell in the 1980s from 18.3% to 17.2%.[21] In contrast, the 1990s were a decade of increasing gaps between higher- and lower-income families; income rose for higher-income earners, but fell for lower-income families in many CMAs (Figure 17). As a result, some of the gains in the low-income rate made in the 1980s were eliminated, and the low-income rate in 2000 was, at 17.7%, only slightly lower than it was in 1980. Over the whole period, median incomes rose in most CMAs indicating a rising standard of living for most. However, the faster rise in incomes for top-income families and the comparative stagnation of incomes at the bottom in most CMAs, suggest that incomes have become more unequal in an important way, particularly in the 1990s.[22]

Low-income rates within CMAs were higher among certain groups, making them disproportionately represented among the low-income population. Three groups in particular tended to have higher low-income rates relative to the population of a given CMA: recent immigrants (those who arrived during the decade preceding the census), Aboriginal people, and lone-parent families. Compared with an average rate of 17.7% in CMAs in 2000, the low-income rate for lone-parent families in CMAs was 46.6% in 2000, for recent immigrants, 35.0% and for Aboriginal people, 41.6%.

Low-income trends varied among these groups. For example, the low-income rate among recent immigrants rose from 23.1% in 1980 to 35.0% in 2000, reflecting the deterioration of their labour market outcomes. Low income improved among lone-parent families over the period, although their rate was still quite high. From 1980 to 2000, the low-income rate for this group fell from 63.9% to 52.4%.

CMAs have widely varying compositions of Aboriginal people and immigrants, which raises an important issue for the delivery of services for low-income persons. In Winnipeg, Regina and Saskatoon, Aboriginal people represented more than 20% of the low-income population. Little of the low-income population in Toronto and Vancouver consisted of Aboriginal people, but recent immigrants comprised much larger shares: 32.0% in Toronto and 32.6% in Vancouver. These differences in the face of low-income across CMAs may be a challenge to those wishing to compose a national strategy to address low income, as it suggests that any solution may need to be tailored towards the diverse needs of particular communities.

21. Low income is measured on an after-transfer, before-tax basis. A person is deemed to be in low income if their adult-equivalent adjusted income is below one-half the median adult equivalent adjusted income in their particular CMA. This threshold will vary from CMA to CMA, but on average it was $33,600 for a family of two adults and two children measured in constant 2000 dollars. For other years, income is adjusted to constant 2000 dollars and compared with the fixed threshold.
22. These results rely on pre-income tax income. The progressivity of the income tax system means that increases in the post-tax income gap would be smaller. A recent investigation of income inequality done at the national level shows that, across a number of different measures, income inequality measured on an after-tax basis increased during the 1990s but not the 1980s (Frenette, Green and Picot [2004]).

Trends in income and income inequality at the CMA level have, as an analogue, trends observed among the geographic units that make up cities: the neighbourhood. In fact, the rising income gap between high- and low-income families was mirrored by a rising gap between high and low-income neighbourhoods. In Toronto, for example, median family income in the poorest 10% of neighbourhoods rose 0.2% from 1980. In the richest 10%, it was up 23.3% (Figure 18). This increasing difference was observed in all larger CMAs. However, while the income gap between richer and poorer neighbourhoods grew, the proportion of low-income neighbourhoods remained relatively stable in the 27 CMAs from 1980 to 2000. (A low-income neighbourhood has a low-income rate exceeding 40%.) In 1980, 6.1% of CMA neighbourhoods were low-income neighbourhoods. This fell to 5.5% in 1990, doubled to 11.8% in 1995, and then fell to 5.8% in 2000 as economic conditions improved. Nevertheless, a steady rise in the income of high-income neighbourhoods suggests a widening gulf between the rich and poor that is not only seen in income polarization but also in terms of spatial polarization.

The location of low-income neighbourhoods in the largest CMAs is also of concern. Are they clustered together in the downtown core or dispersed throughout the CMA? The central cities of Canadian CMAs have not grown as fast as the suburbs, and some have declined. This raises the question of whether low income has become concentrated in the downtown cores of Canadian cities as it has in some U.S. cities.

In fact, Canadian CMAs are diverse in this regard. Some centres, such as Winnipeg and Vancouver, have a single dominant cluster of low-income neighbourhoods in the downtown core. Others, such as Toronto and Montréal, have several distinct clusters of low-income neighbourhoods surrounding a relatively affluent downtown. In these CMAs, what were once low-income neighbourhoods in the downtown core are being redeveloped, reducing the number of low-income neighbourhoods found in the core. In Montréal for example, the Plateau Mont-Royal was one of two areas with low-income rates greater than 40% in 1980, but not in 2000 (Figure 19). The other was Old Montréal, the site of a number of new condominium developments. At the same time, three clusters of low-income neighbourhoods farther from the city centre grew over this period: Hochelaga-Maisonneuve in the east end, and Côte-des-Neiges and Park Extension. A similar, though less dramatic trend was seen in Toronto, where some low-income neighbourhoods in the core declined in size while others in the inner suburbs, such as near Jane and Finch, expanded.

Housing growth and affordability

The growing CMA can also put a stress on housing markets. Figure 20 plots household growth at the CMA level between 1996 and 2001 against a number of housing market indicators. Household growth is positively related to housing starts, negatively related to vacancy rates, and positively related to the growth in several housing cost indicators including the average rate of rent, the average cost of residences and the New Housing Price Index.[23]

While these indicators reflect hot housing markets in fast-growing CMAs, they do not necessarily reflect on housing affordability. To understand housing affordability one must consider shelter cost, which is the amount households actually spend on housing each month, and household income together. From 1996 to 2001, shelter cost rose 10.5% across all CMAs while household income rose by 21.2%,[24] indicating that housing affordability improved between 1996 and 2001. This follows a period between 1991 and 1996 when housing affordability fell, mainly because of stagnant growth in household income. Like other

23. Household growth does not necessarily lead to stress in the housing market, as the direction of causality could lead the other way. Rather, these cross tabulations are intended to show that faster-growing CMAs do also tend to have tighter housing markets.

24. Both numbers are unadjusted for inflation.

housing indicators, shelter costs increased more in fast-growing CMAs, but household income grew faster still, so on balance, housing affordability rose between 1996 and 2001.[25]

However, many still live in housing that they cannot afford. If one defines unaffordable as spending 30% or more of before-tax income on housing, over 20% of CMA households lived in unaffordable housing. The share of households living in unffordable housing was much higher among renters (33.9% in 2001) than homeowners (14.6% in 2001).

Unequal health

Health outcomes are one area where there are often substantial differences from place to place. In fact, international and Statistics Canada data show that life expectancy at birth varies more across Canadian CMAs than it does across a list of 22 OECD countries. While too much could be made of this result, comparing as it does populations of countries with relatively small populations in cities, it does illustrate the large differences in health conditions among Canada's CMAs. In 2000, life expectancy at birth averaged 79.4 years in Canada, but ranged from 81.1 in Vancouver to 76.7 years in Sudbury.

There are several factors affecting the population health of a city. A partial list would include: (1) health behaviours including smoking, drinking and physical activity; (2) health conditions including obesity and high blood pressure; (3) psycho-social factors including depression and life stress; (4) health system characteristics including unmet health care needs and the supply of doctors and specialists; and (5) socio-economic and socio-demographic characteristics, such as education, unemployment, low income, income inequality, and the share of the population that are immigrants or Aboriginals.

CMA differences in health derive from differences in these characteristics as well as other factors. Figure 21 shows a series of cross-tabulations between health factors and life expectancy. Clearly, health behaviours and conditions matter for CMA health, as indicated by the negative relationships between smoking, drinking, obesity and high blood pressure and life expectancy. Further, socio-economic and socio-demographic characteristics also play a role as indicated by the positive role of education, income and the share who are immigrants. Analysis of a second measure of health outcomes: self rated health, suggest that this is negatively related to obesity, high blood pressure, and self perceived unmet health care needs but positively related to the availability of general practitioners and medical specialists.

Commuting patterns and public transit

CMAs are growing in both population and geographic size. At the same time, the landscape of where people work is changing. Driven by changes in the industrial makeup of the city, plus a need to accommodate an ever-expanding population, more and more of the workforce are employed in the suburbs of cities. This has implications for commuting patterns and the provision of public transit services.

Jobs are still strongly concentrated in downtown core areas in most urban centres. However, between 1996 and 2001, the relative economic importance of inner cities declined, as the number of jobs in the suburbs increased at more than four times the pace that they did in the core areas. From 1996 to 2001, the number of jobs within 5 km of the city centres of CMAs rose increased by 156,000. On the other hand, the number of jobs outside 5 km rose by 733,200.

As the central city loses its importance as a place of work in the growing metropolitan area, and as more and more people live in the suburbs, commutes are becoming more complex. Smaller shares of commuters travel on the traditional "suburb-to-core" routes upon which many metropolitan transit systems were

25. Housing affordability also rose in CMAs between 1991 and 2001, with average shelter costs rising by 21% and household income rising by 28% on an unadjusted basis. Among CMAs, housing affordability fell by a significant amount only in British Columbia CMAs. Shelter costs outgrew income by 6.8% in Vancouver, 9.1% in Victoria, and by 19% in Abbotsford. Shelter cost-to-income ratios differed slightly between renters and owners with rental housing becoming more affordable, and owning becoming less affordable in some CMAs.

originally built, while larger shares of workers commute either within suburban municipalities, across-town to other suburban municipalities, or from the central municipality out to the suburbs. In many CMAs, suburb to suburb commuters represented the fastest growing segment of commuters between 1996 and 2001.

Public transit systems appear to be most efficient at getting people to work when they work in the downtown core. In 7 of the 8 largest CMAs, more than one-third of public transit commuters were destined for the central business district. In Toronto, 43.4% of public transit commuters were destined for that city's central business district. However, more and more jobs are found in the suburbs of cities, and workers are particularly unlikely to take public transit to work in these locations. For example, in Toronto, 208,300 more workers were commuting to locations over 20 km from the city centre in 2001 than in 1996. Nearly 90% of these workers commuted in cars (Figure 22). This change may have created substantial demands on the CMA's infrastructure. In just five years, the number of people commuting by car in the metropolitan area of Toronto has increased 14%, while the number commuting by car to locations more than 20 km from the city centre rose 26%.

Commuters are particularly unlikely to take public transit when they live and work in the suburbs. Rather most choose to drive to work. For example, in Ottawa–Hull, suburb-to-suburb commuters accounted for 41% of all commuting growth between 1996 and 2001. But only 7% to 8% of suburb-to-suburb commuters took public transit. In fact, in all CMAs, the share of commuters taking public transit was lower on non-traditional paths than within the city centre and between the suburbs and downtown. This is not surprising given the city centre focus of public transit systems in the largest urban areas. It may be either that the infrastructure does not exist for providing between-suburb commuters with the public transit option, or the option exists, but driving to work is preferred because of cost, time, or convenience considerations. Given that much of the increase in commutes has taken place along these non-traditional dimensions, this reflects a challenge urban areas may face in dealing with increased commuter car traffic.

Against this backdrop of job suburbanization, public transit systems have been able to capture a steady proportion of commuters. In Montréal, about 22% to 23% of commuters took public transit to their jobs in both 1996 and 2001. Public transit was able to maintain a steady proportion of commuters by capturing a higher share of workers headed for the downtown cores of CMAs. This is consistent with the argument that workers face additional traffic congestion in their commute and are shifting towards public transit use, especially going to jobs in the downtown core where public transit provides an efficient alternative.

Issues not covered by the Trends and Conditions in Census Metropolitan Areas Series

Fiscal issues facing metropolitan areas

Few metropolitan issues receive more attention than the fiscal situation of Canada's largest urban areas. Over the past 15 years, all levels of government have had to deal with fiscal challenges. After posting huge deficits in the late 1980s, the federal government entered a period of fiscal restraint, transforming its budget into a surplus position by the 1997/1998 fiscal year. By 2004/2005, the federal government had posted a $7.8 billion surplus. Over the same period provincial governments (combined) also reduced their deficits, but still had a deficit position in 2004/2005. Local governments went from a neutral position in 1989/1990 to a $3.0 billion deficit in 2004/2005.[26] Municipalities have argued that rising expenditures and a shortfall of revenue places Canadian cites at a competitive disadvantage internationally, and raise concerns over the future quality of life in metropolitan areas.[27] At the same time, the federal government has announced "a new deal for Canada's communities," which is to provide municipalities with a

26. Sources: Statistics Canada, *The Daily*, Statistics Canada catalogue number 11-001-XIE, Thursday, June 16, 2005, and Statistics Canada, Public Sector Statistics Financial Management System 2004/2005, Catalogue no. 68-213-XIE.
27. Federation of Canadian Municipalities (2005 a).

share of federal gas tax revenues, renew and increase funding to other programs, and establish stable funding.[28]

Unfortunately, it is difficult to disaggregate the fiscal position of municipalities below the provincial level. The public accounts of governments are not all produced on a comparable basis, and Statistics Canada does not produce financial statistics for individual municipalities; rather municipal financial information is aggregated to the provincial level. Statistics Canada is working towards providing information on Canada's 3,000-plus municipalities, and substantial work has been done towards producing revenue, expenditure and financial position estimates for selected CMAs and census agglomerations (CAs).[29]

Infrastructure issues

City public infrastructure includes such diverse classes as water treatment facilities, recreational centres, road and bridge systems and public transit systems. Furthermore, because urban areas have different population sizes, geographical layouts and socio-economic make-ups, they also have different mixes of public infrastructures in their stock, and diverse future needs (Hill and Ballard, 2004). Public infrastructure has an important impact on the quality of life in municipalities, affecting productivity and economic performance. For example, public sector investment has supported the transportation sector and allowed for the expansion of Canadian cities. It has been argued that national investment in public capital has not kept pace with the growing economy. This may have macroeconomic consequences, and places Canada's high standard of living at risk. Meanwhile, local governments held 52.4% of all public infrastructure in Canada, up from 30.9% in 1961 (Harchoui, Tarkhani and Warren [2003]). The extent to which urban infrastructure needs have lagged behind financing can be referred to as the 'infrastructure deficit.'

Several estimates of the infrastructure deficit appear in the literature. The Federation of Canadian Municipalities (2005b) estimated that $61 billion is needed to upgrade and extend basic municipal infrastructures, and that the infrastructure deficit is rising by $2 billion per year. Estimates from the Toronto Dominion Bank suggest that the infrastructure deficit could be as high as $125 billion.[30] The variance in estimates indicates clearly that a definitive estimate of the state of infrastructure remains an important data gap.

Three projects are presently underway at Statistics Canada which are related to infrastructure data development and research: a project on defining infrastructure; an international comparison of the importance of infrastructure in the economy; and a databank detailing infrastructure assets at the provincial level.[31]

Environmental issues

The quality of the environment is an issue at the forefront of the Canadian public consciousness. Drinking water quality, waste water treatment, pesticide and fertilizer use, recycling and solid waste disposal, land use and brownfield cleanup, car use behaviour, public transit, and industrial makeup of the city are some areas where municipal infrastructures and urban residents interact with and affect their environment. Together these factors underscore that municipal governments have a large part to play in protecting the environment.

Both municipal finances and the state of infrastructure play an important consideration in the municipality's ability to protect its environment. In a period of fiscal deficits, dollars may be scarce for investing in greener technologies, public transit, and cleaning up urban brownfield spaces. Furthermore, the 'infrastructure deficit' may also pose an important barrier to municipalities greening their environment, as old

28. Department of Finance (2005).
29. Statistics Canada, Public Institutions Division.
30. TD Economics (2004).
31. Micro-Economic Analysis Division, Statistics Canada.

infrastructures such as outmoded public transit or water treatment facilities may be less environmentally friendly.

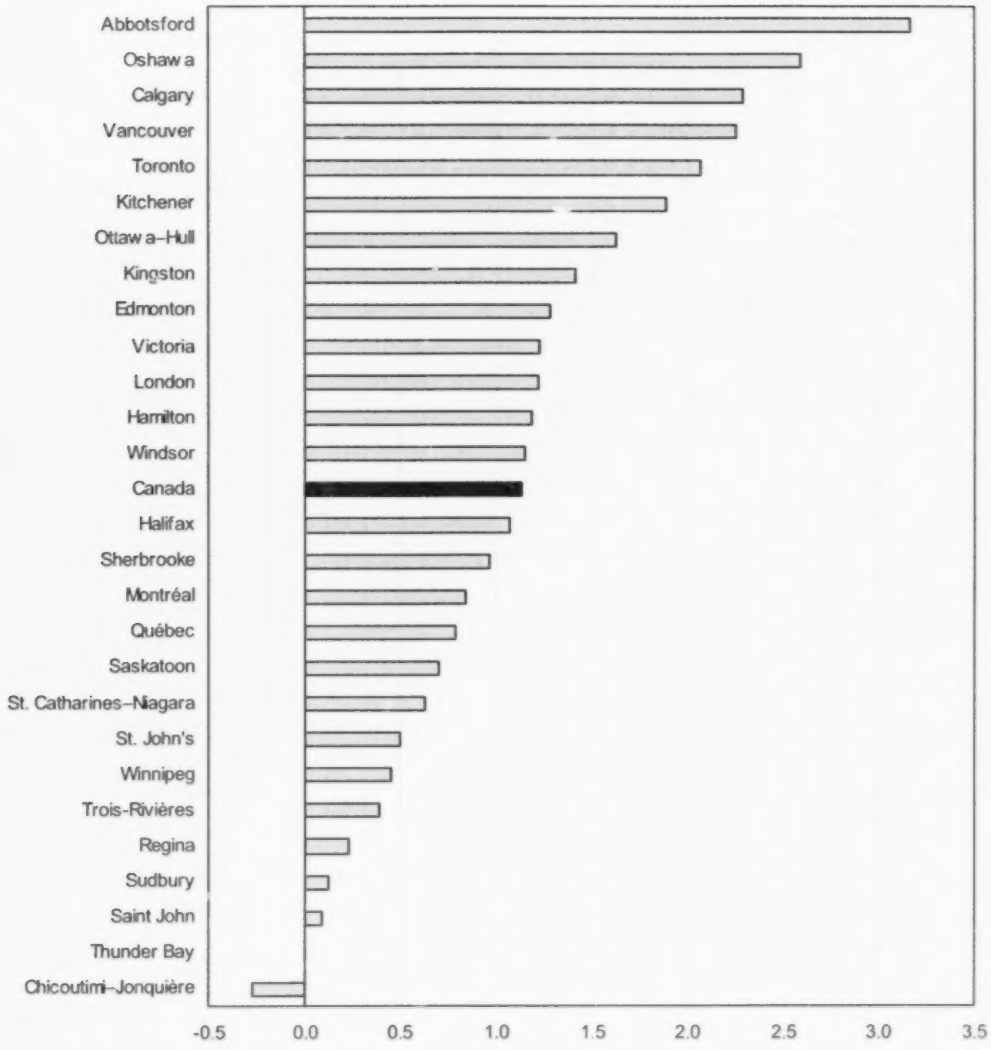
Statistics Canada and Environment Canada together warehouse a substantial quantity of environmental statistics measuring air quality, solid waste disposal, water use, land use and commuting and public transit use. In some cases these are available at the municipal level; in others they are available for particular environmental geographies, such as watersheds or ecozones. These data have become core units in indicators programs such as the Federation of Canadian Municipalities' Quality of Life in Canadian Communities series.[32] However, available data are sometimes criticized as being difficult to interpret or incomparable over time,[33] reflecting another area where data development needs are high.

Conclusion

The eight reports of the Trends and Conditions in Census Metropolitan Areas series document the diversity of economic and social trends seen in Canada's largest metropolitan areas. As governments turn their attention to cities and policies to make cities liveable places today and in the future, the key contribution of these reports is threefold. First, the reports detail how place matters. CMAs differ from one another greatly in many indicators, and their economic and social differences are important factors that define them. Accordingly, policy prescriptions affecting cities may need to reflect this diversity. Second, the series contributes substantially to the amount of data and analysis needed to make accurate policy assessments of what may be ailing in Canada's largest cities; identifying where each problem is most acute; and providing guidance to policy makers seeking to better the quality of life in Canadian cities. Third, the series provides benchmarks against which future data, and most notably data from the 2006 Census, can be examined.

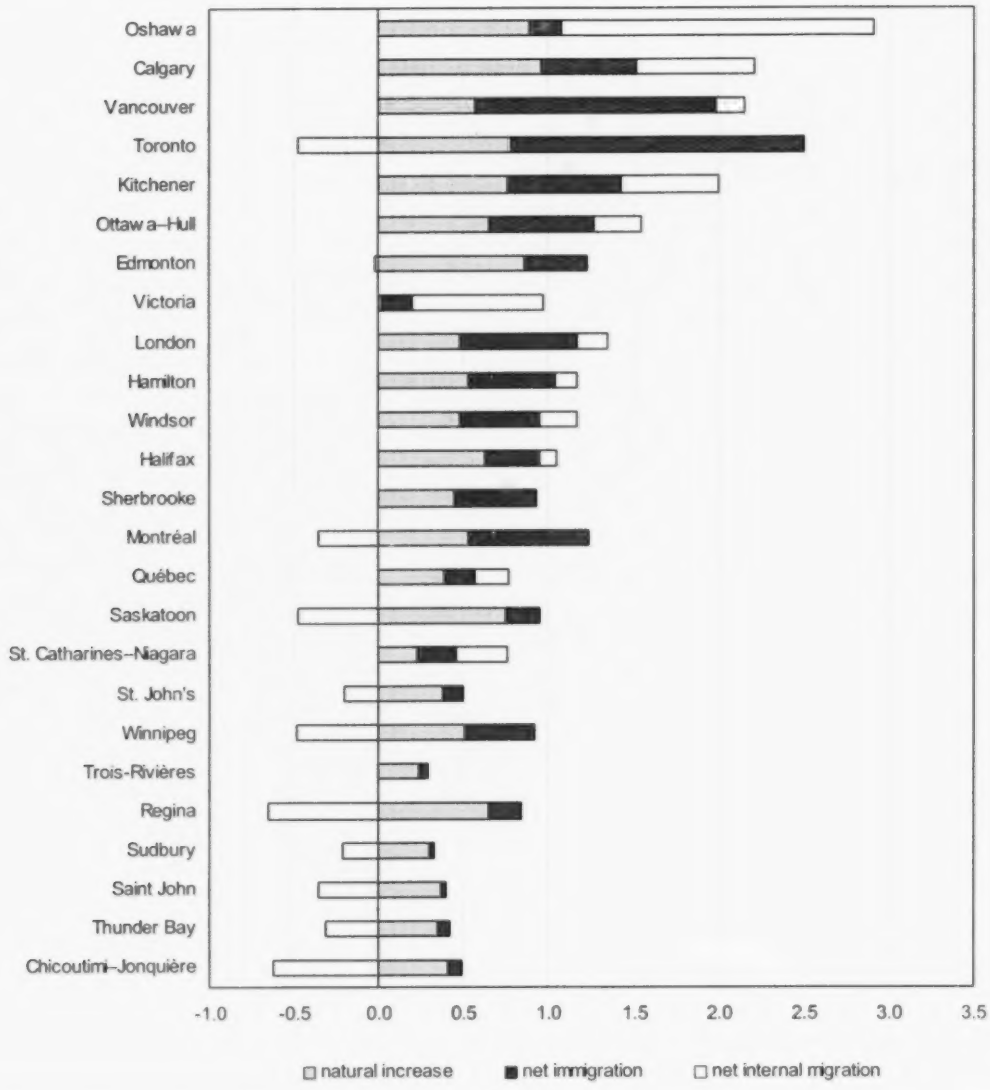
32. For example: Federation of Canadian Municipalities (2005b).
33. Federation of Canadian Municipalities (2005b).

Figure 1: Average annual population growth (%) by CMA, 1986-2004



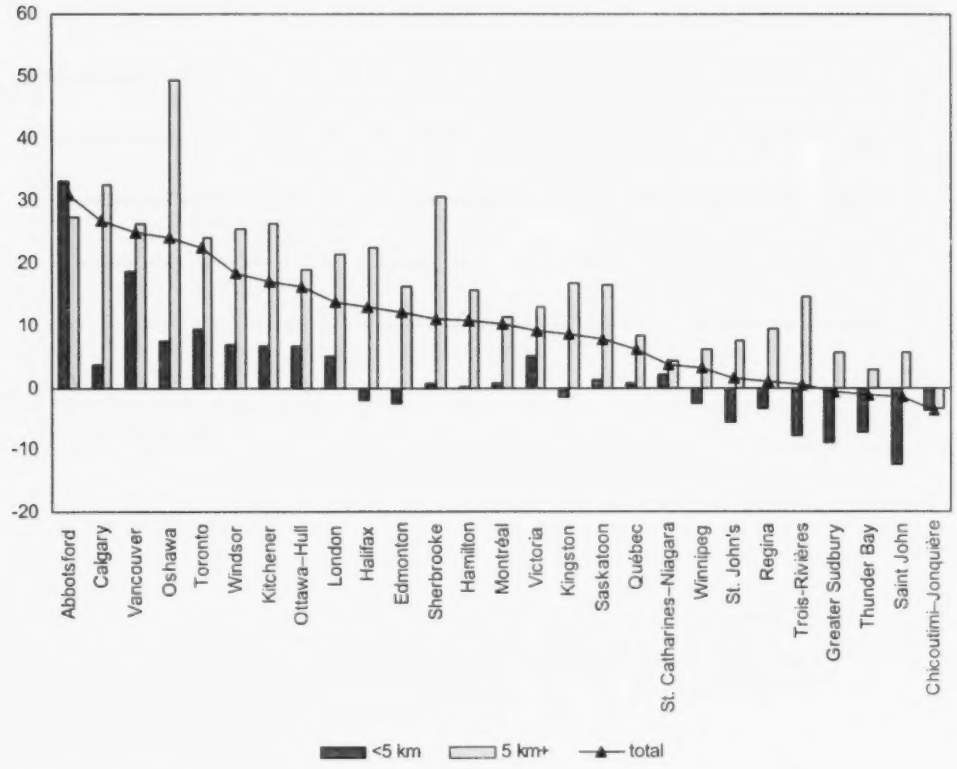
Note: Growth rates for CMAs are derived from annual population statistics of Statistics Canada and reflect the entire population of CMAs, except for Kingston's and Abbotsford's which are derived from Labour Force Survey estimates, and refer to the population aged 15 and over.
Source: CANSIM.

Figure 2: Annual population growth (%) by CMA, by growth component, 1986-2004



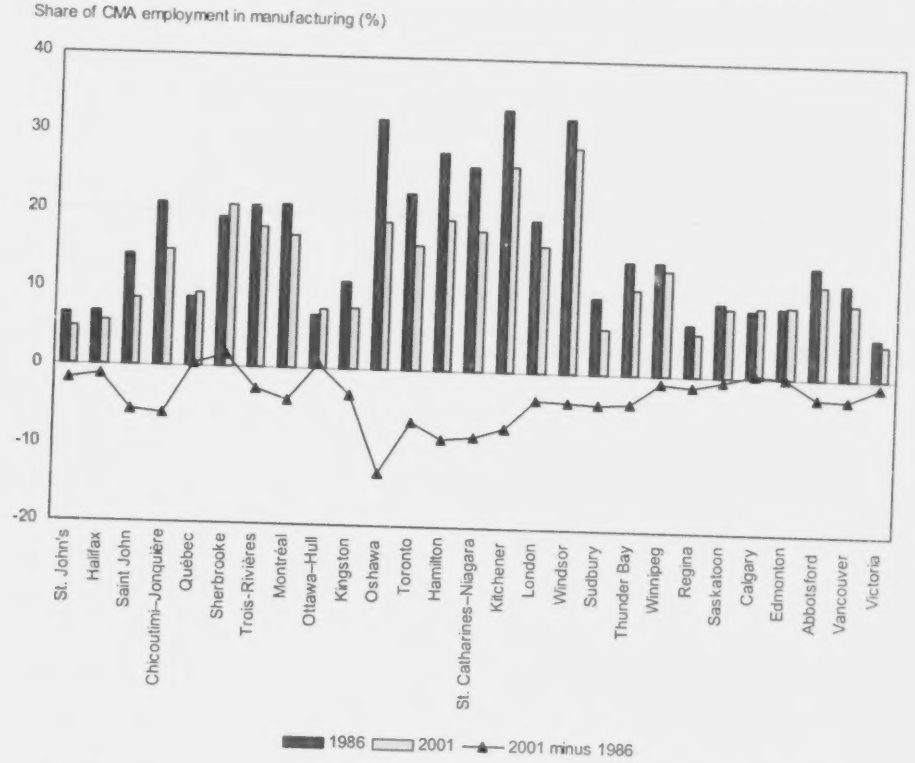
Note: Data are not available for Kingston or Abbotsford.
Source: CANSIM.

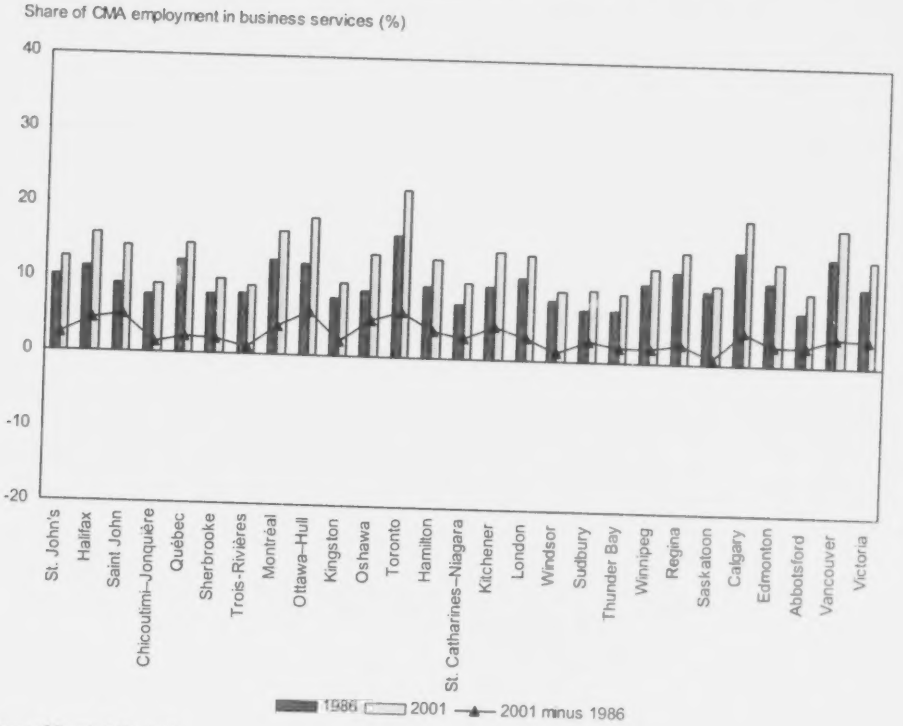
Figure 3: Population growth (%) by distance from city centre, 1991-2001



Note: City centre is determined to be the location of the primary municipality's city hall in 2001. See Statistics Canada Catalogue no. 89-613-MIE-No 7 for more details.
Source: Census of Canada, 1991-2001

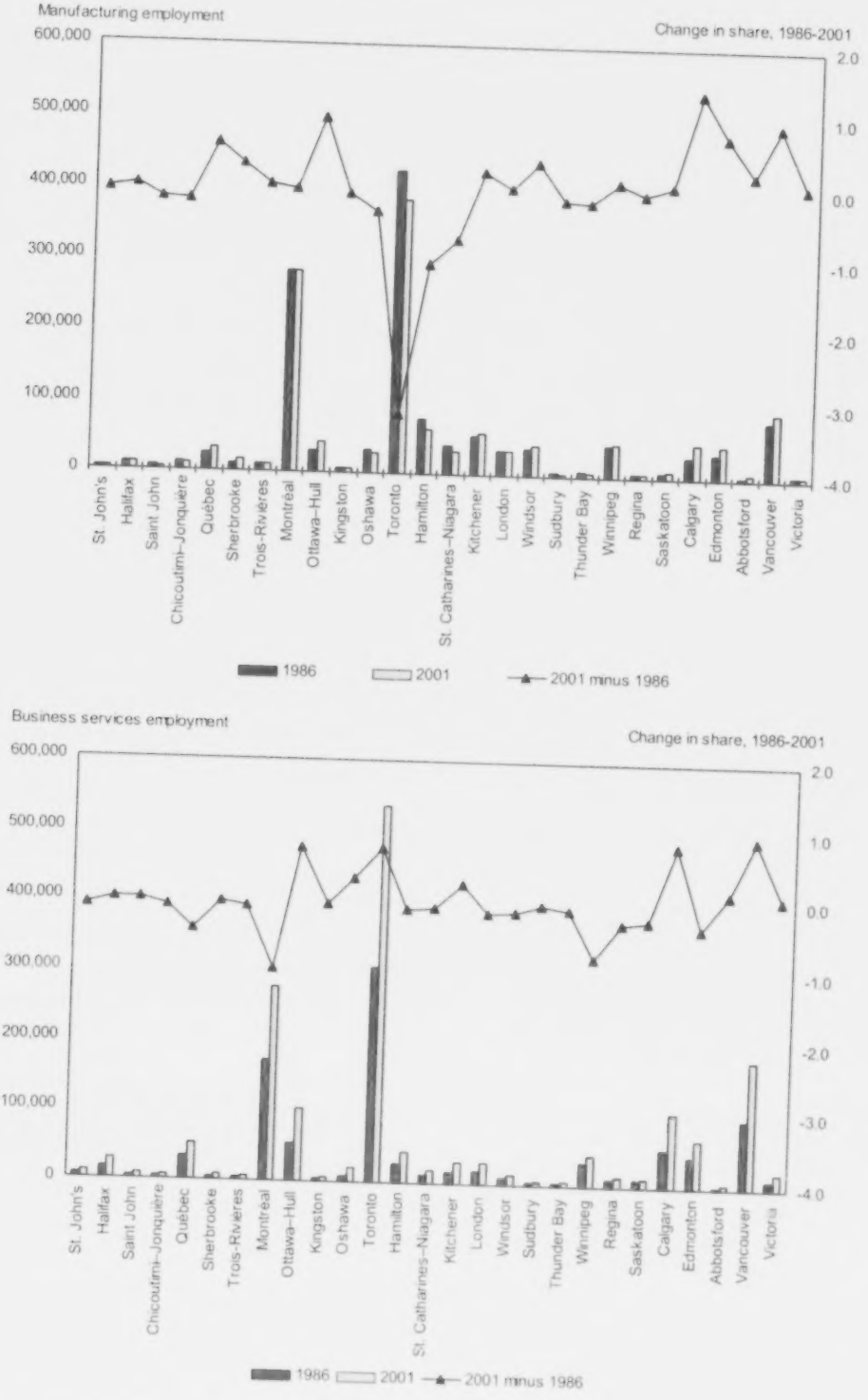
Figure 4: Share of CMA employment in manufacturing and business services, 1986-2001





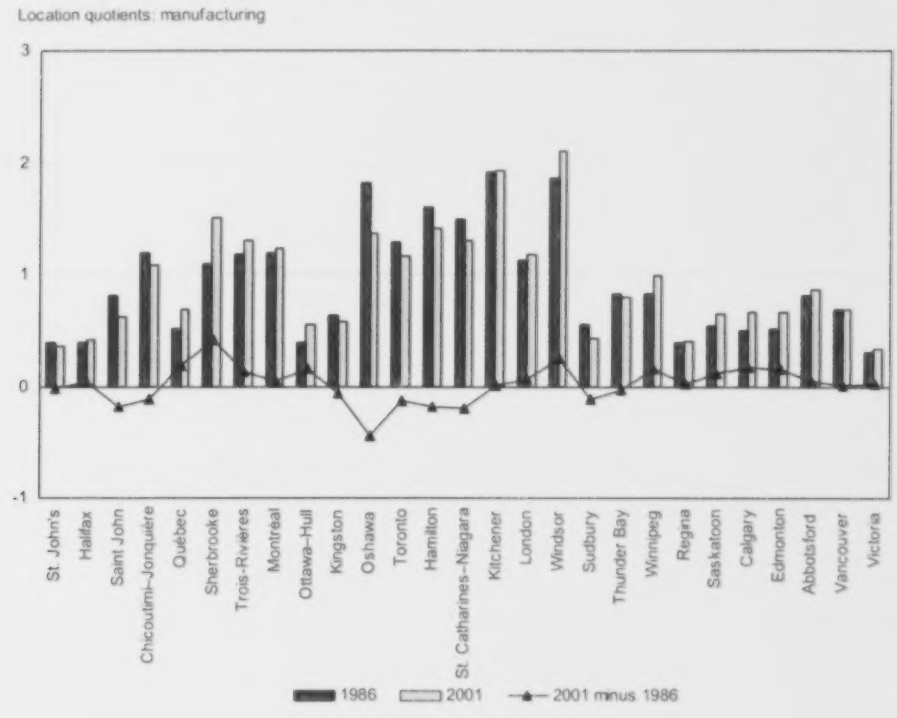
Source: Census of Canada, 1986, 2001.

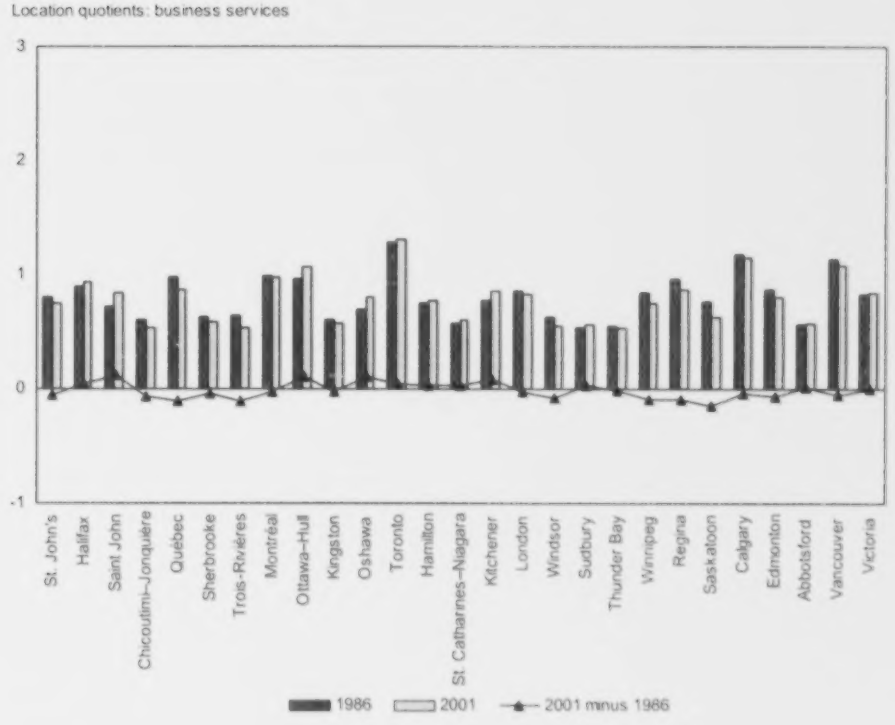
Figure 5: Employment in manufacturing and business services, 1986-2001



Source: Census of Canada, 1986, 2001.

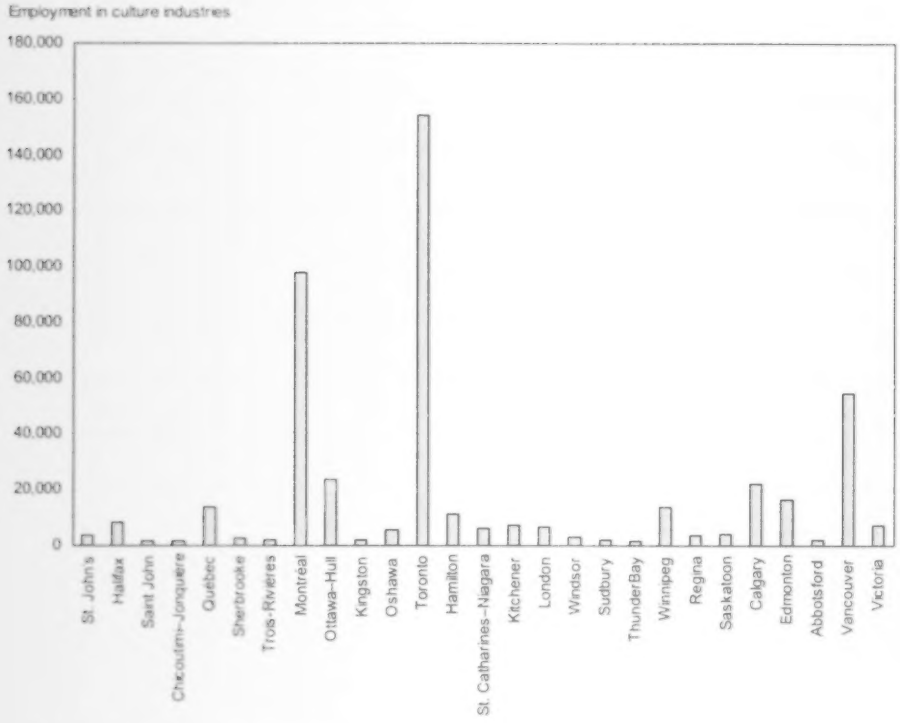
Figure 6: Location quotients, manufacturing and business services, 1986-2001

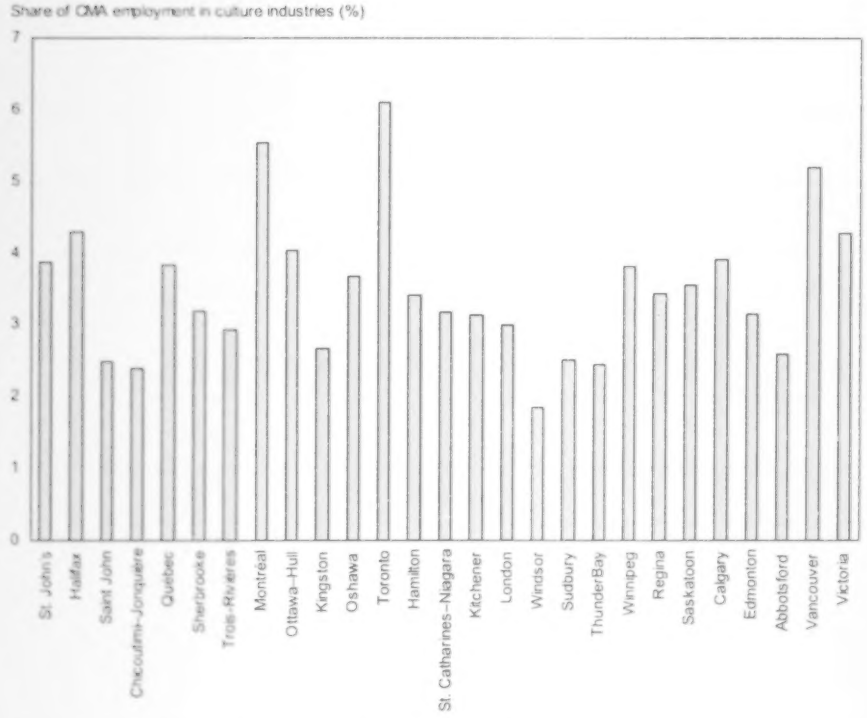




Source: Census of Canada, 1986, 2001.

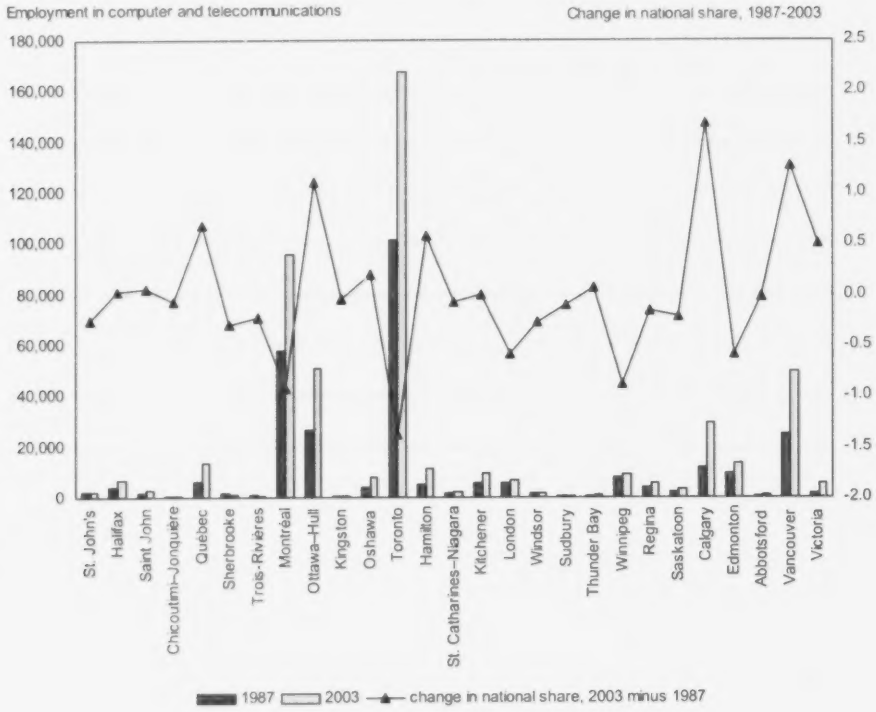
Figure 7: Employment in culture industries, 2001

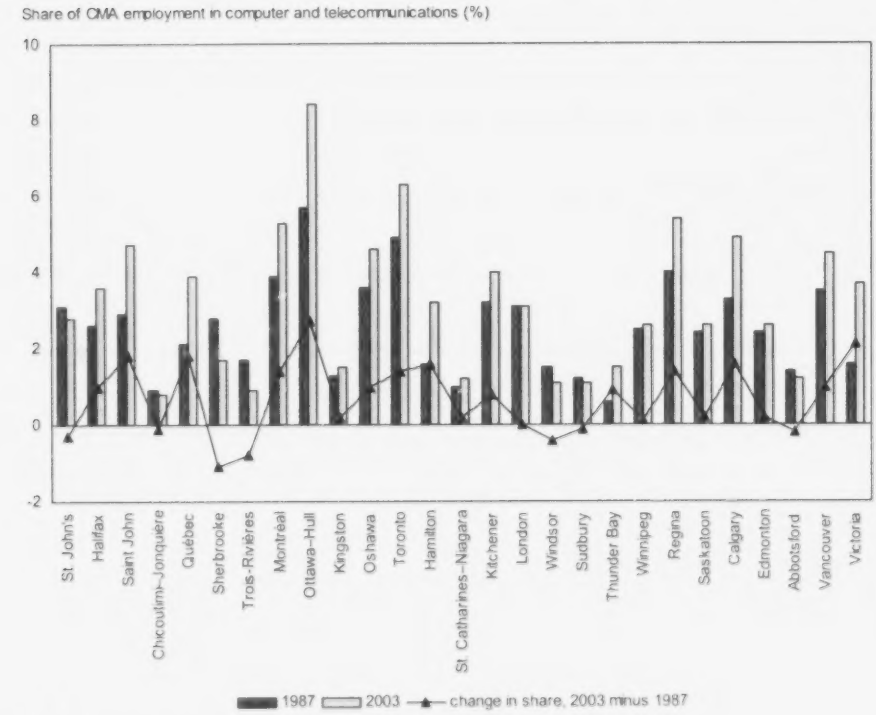




Note: For a definition of culture industries, see Statistics Canada Catalogue no. 89-613-MIE, No. 4.
Source: Census of Canada, 2001.

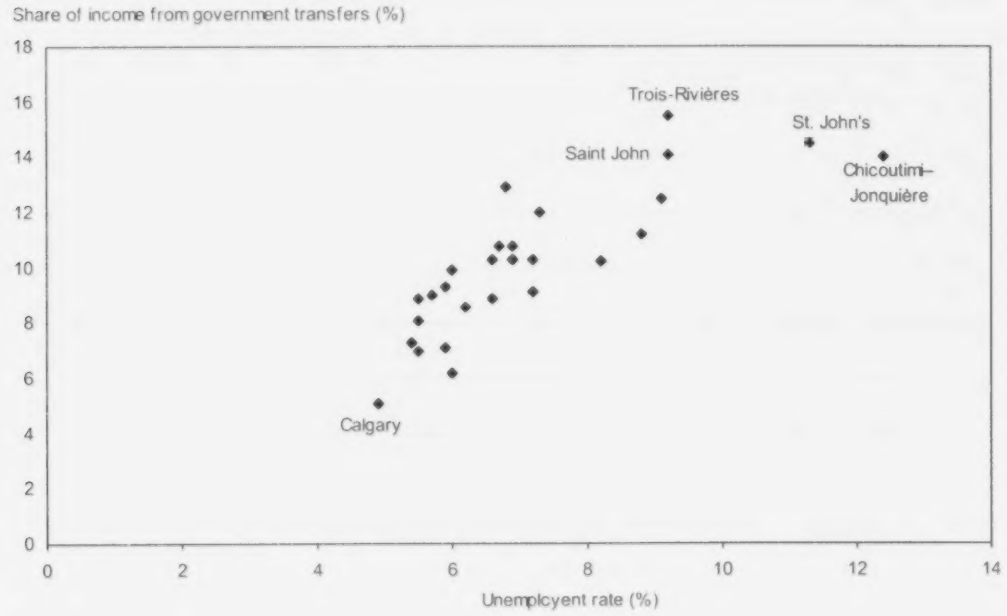
Figure 8: Employment in computer and telecommunications industries, 1987-2003





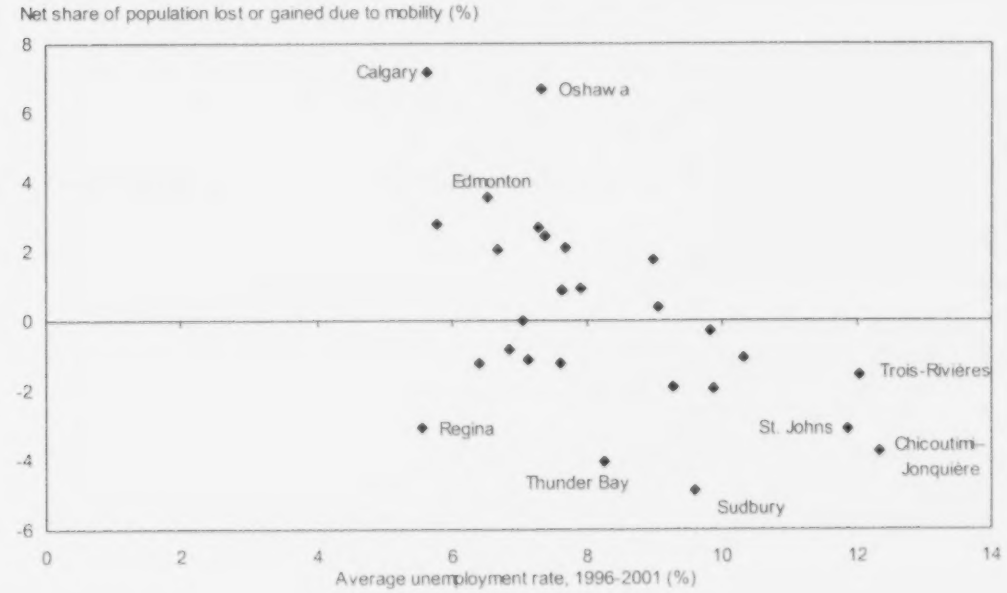
Note: For a definition of computer and telecommunications industries see Statistics Canada Catalogue 89-613-MIE-No 6.
Source: Labour Force Survey, 1987, 2003.

Figure 9: Unemployment rate and share of income received from government transfers, CMAs, 2001



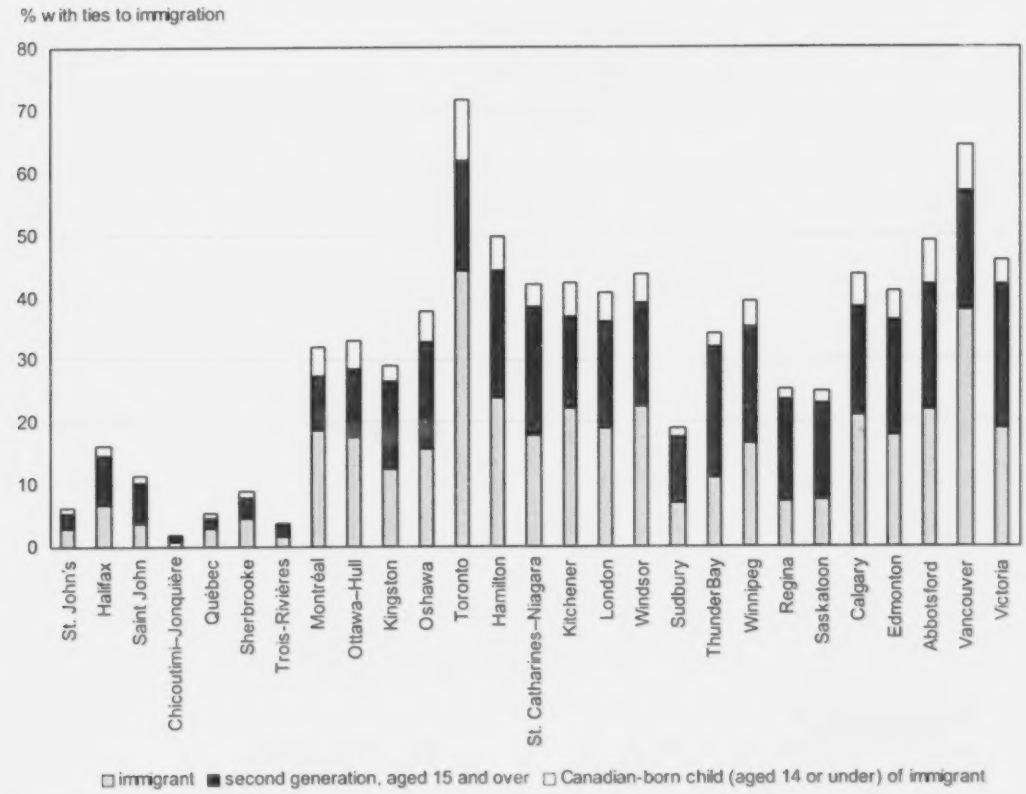
Source: Census of Canada, 2001.

Figure 10: Unemployment rate and net share of population gained or lost due to mobility, CMAs, 2001



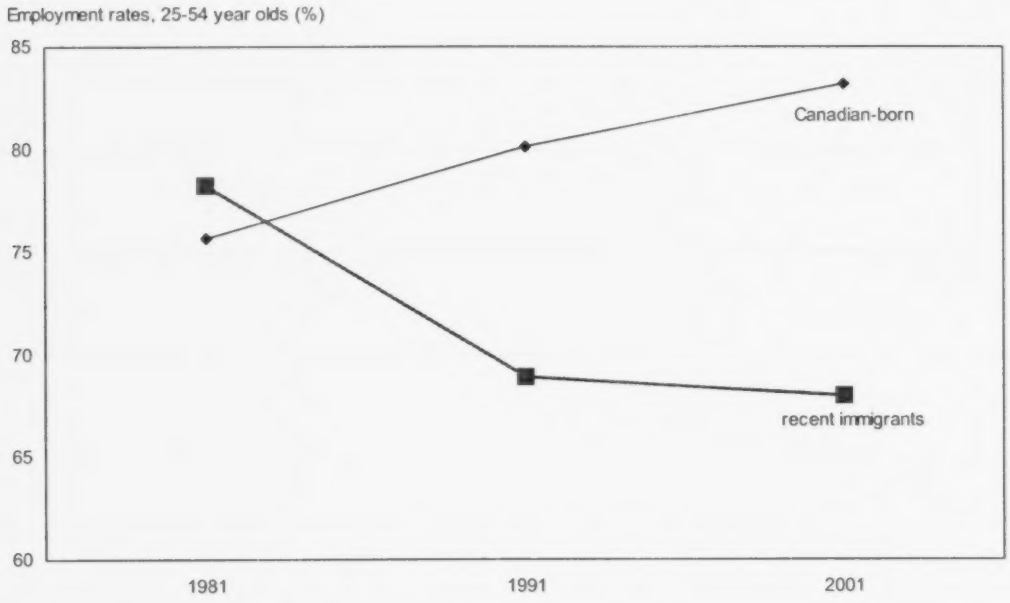
Source: Census of Canda, 2001.

Figure 11: Percentage of CMA residents with 'ties to immigration', 2001



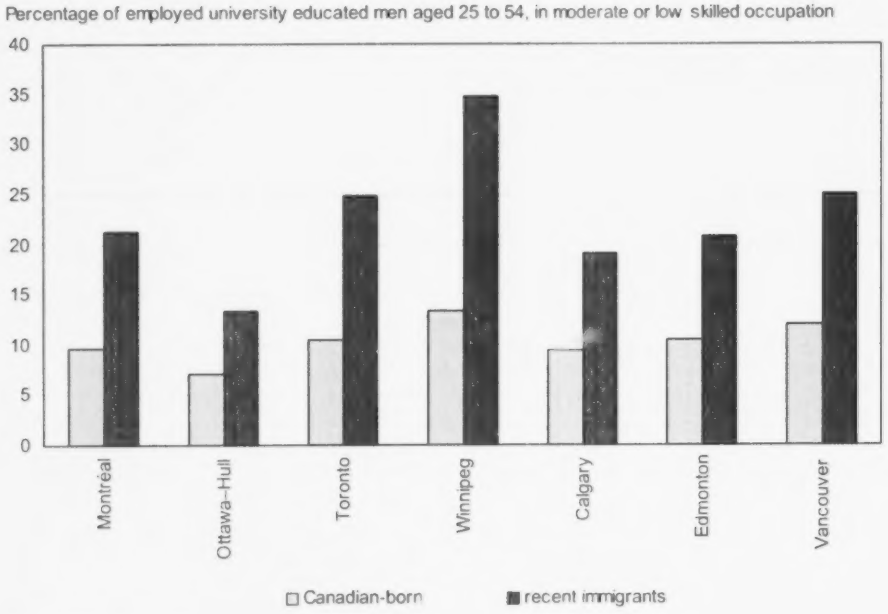
Source: Census of Canada, 2001.

Figure 12: Employment rates, recent immigrants and Canadian-born, 1981-2001



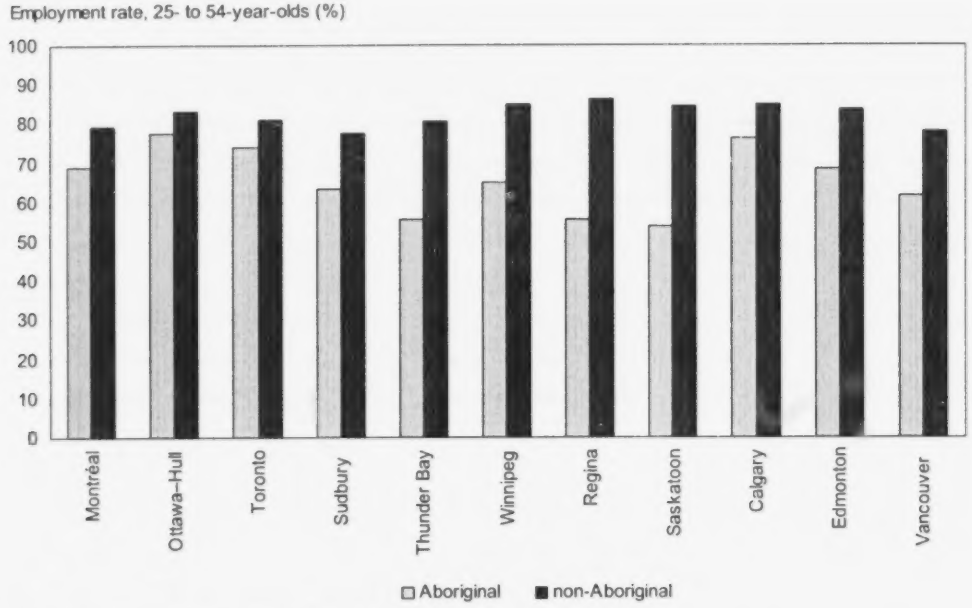
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.6 for more details.
Source: Census of Canada, 1981, 1991, 2001.

Figure 13: Share of university educated men employment in moderate or low-skilled occupations, 2001



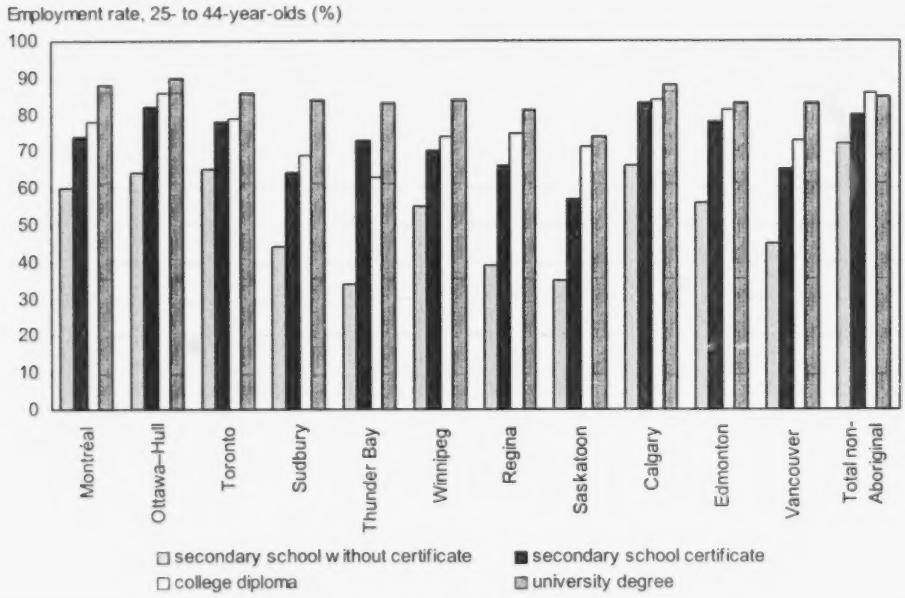
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.3 for more details.
Source: Census of Canada, 2001.

Figure 14: Employment rates, Aboriginal and non-Aboriginal persons, 2001



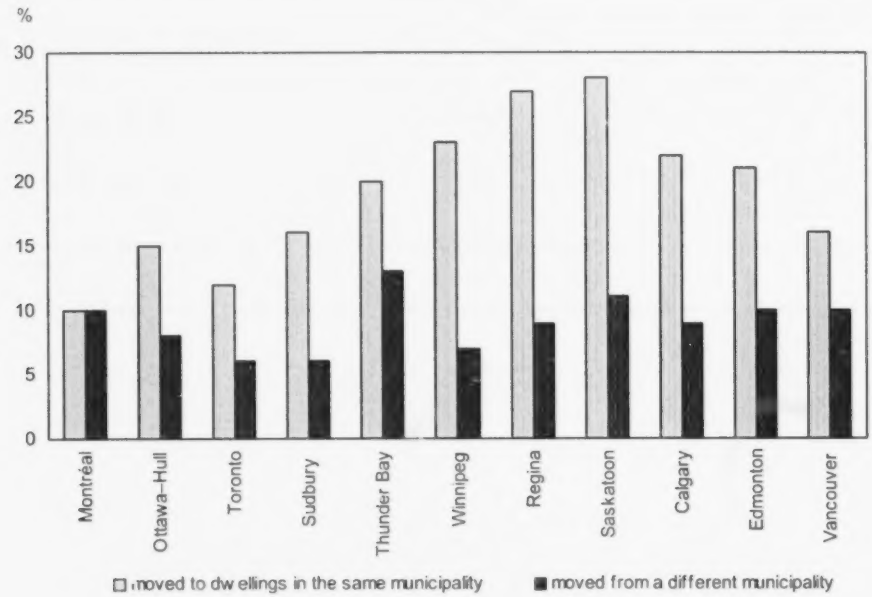
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.8 for more details.
Source: Census of Canada, 2001.

Figure 15: Employment rates, Aboriginal and non-Aboriginal persons, by highest level of schooling, 2001



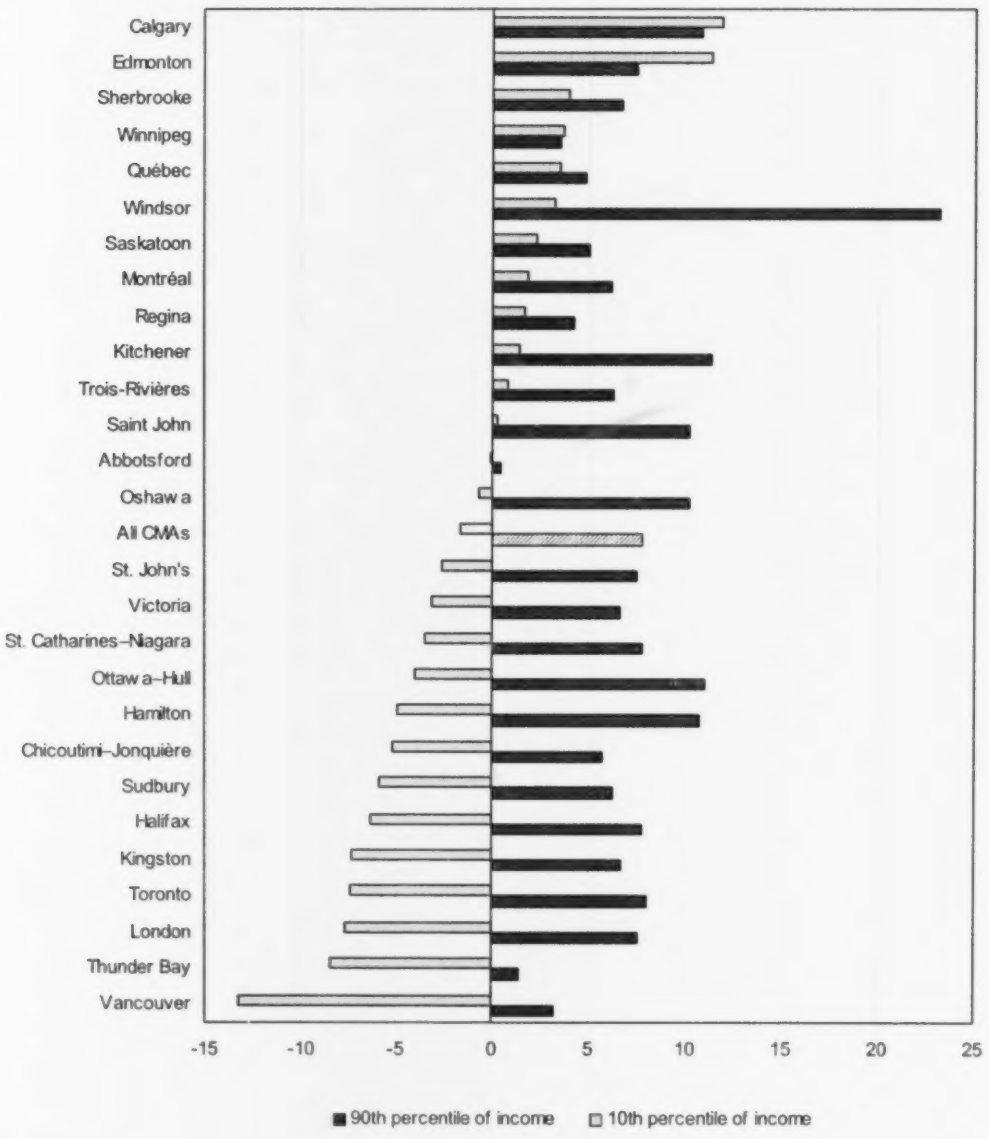
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.8 for more details.
Source: Census of Canada, 2001.

Figure 16: Share of Aboriginal people who changed residences within the CMA between 2000 and 2001



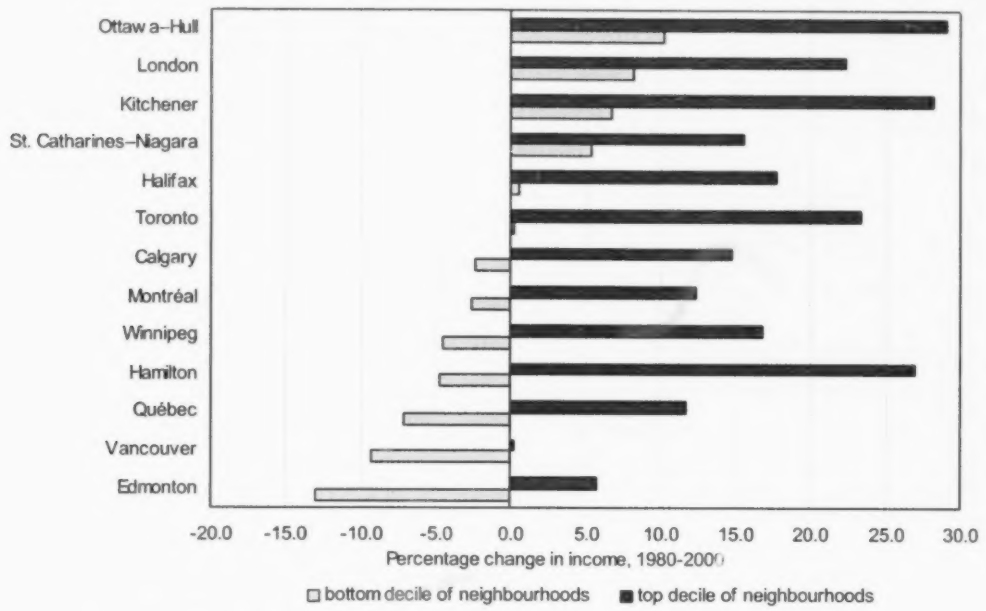
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.8 for more details.
Source: Census of Canada, 2001.

Figure 17: Change in family income at the 10th and 90th percentiles of income, 1990-2000



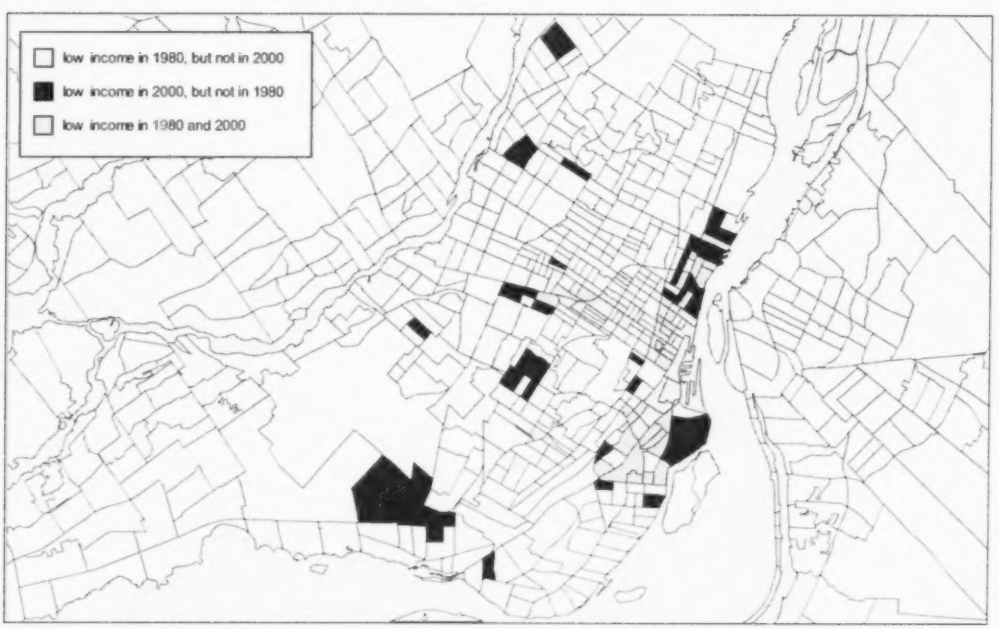
Note: Income is before-tax family adjusted income. See Statistics Canada Catalogue no. 89-613-MIE-No.1 for more details.
Source: Census of Canada, 1991, 2001.

Figure 18: Change in neighbourhood income by decile of neighbourhood income, 1980-2000



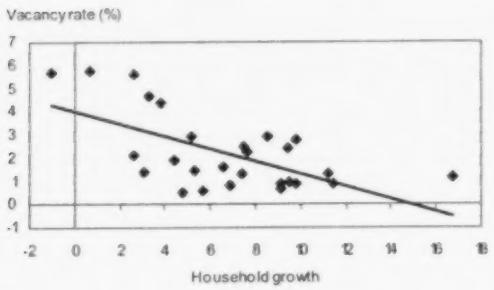
Note: Income is before-tax family adjusted income. See Statistics Canada Catalogue no. 89-613-MIE-No.1 for more details.
Source: Census of Canada, 2001.

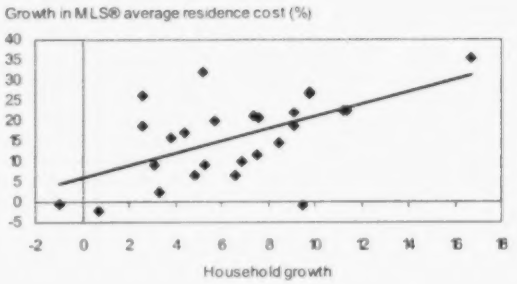
Figure 19: Low-income neighbourhoods in Montréal, 1980 and 2000

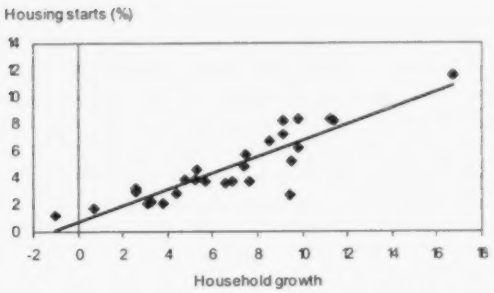


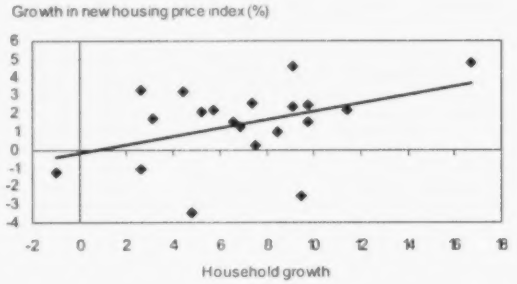
Note: A low-income neighbourhood is one where the low-income rate was greater than 50%. Low-income rates were defined as having adjusted family income less than one-half of median adjusted family income. Income was measured before tax. See Statistics Canada Catalogue no. 89-613-MIE-No.1 for more details.
Source: Census of Canada, 1981, 2001

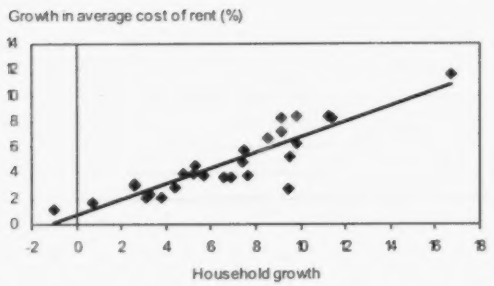
Figure 20: Household growth and indicators of housing demand and cost





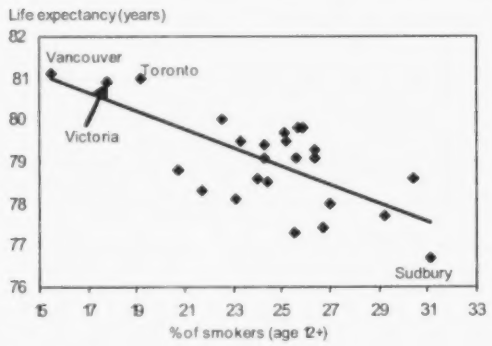


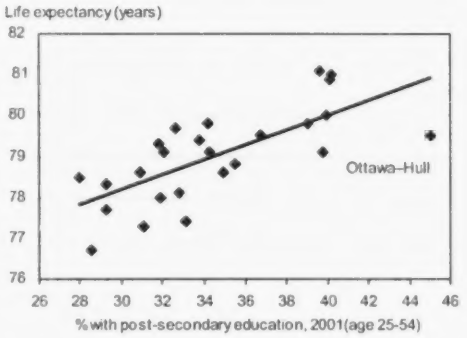


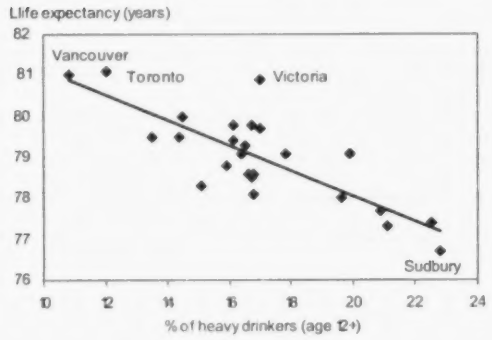


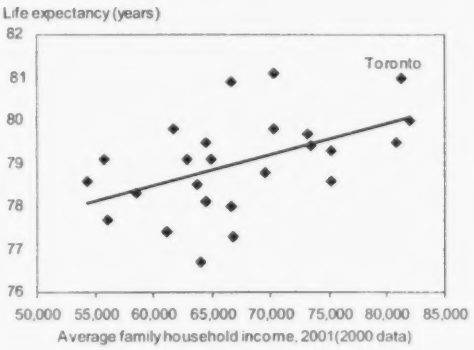
Notes: Household growth is between 1996 and 2001 (Source: Census of Canada, 1996, 2001). Rental vacancy rates are measured in 2001 and represent rates for privately initiated apartment structures with at least three units (Source: Canada Mortgage and Housing Corporation Rental Market Survey).
MLS® growth in average residence cost is measured between 1996 and 2001. MLS® is a registered trademark of the Canadian Real Estate Association. (Source CREA (MLS®)).
Housing starts are measured for 2001 (Source: Canada Mortgage and Housing Corporation (Starts and Completions Survey)) and adapted from Statistics Canada (CANSIM). Growth in the New Housing Price Index is measured across 1996 to 2001 (Source: Canada Mortgage and Housing Corporation Starts and Completions Survey).
Growth in average cost of rent is measured for a two-bedroom apartment across 1996 to 2001 for privately initiated apartment structures with at least three units (Source: Canada Mortgage and Housing Corporation Rental Market Survey). See Statistics Canada Catalogue no. 89-613-MIE-No.5 for more details.
Sources: See notes.

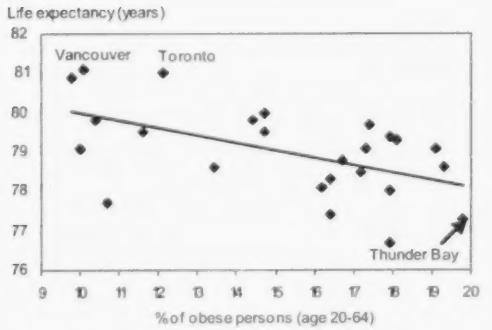
Figure 21: Health factors and demographic characteristics correlated with life expectancy

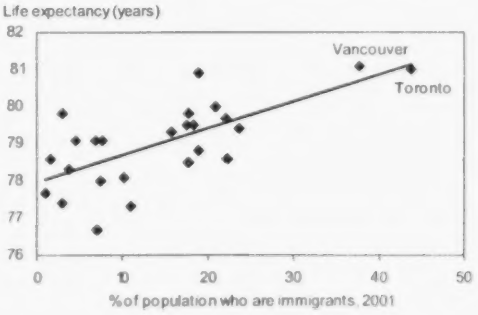


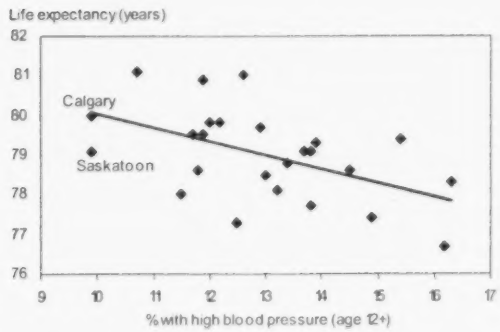






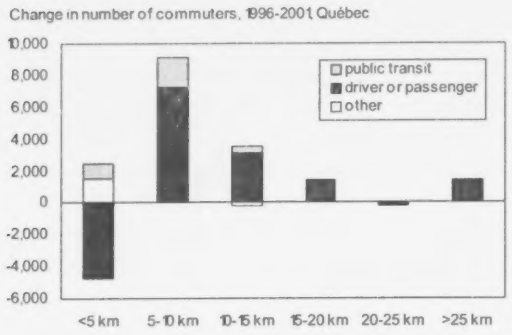


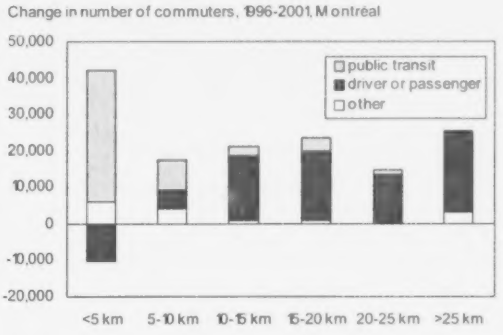


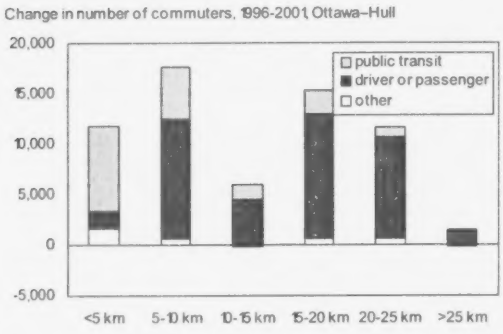


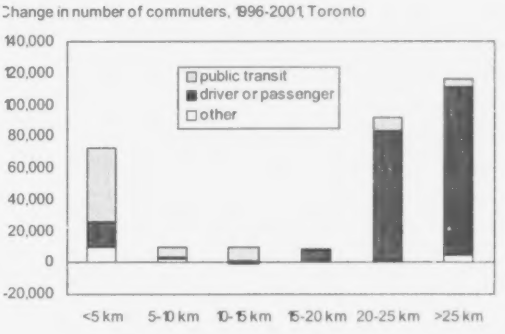
Note: See Statistics Canada Catalogue no. 89-613-MIE-No.2 for more details.
Sources: Statistics Canada, Vital Statistics (2000), Canadian Community Health Survey (2000/01) and Census of Canada, 2001.

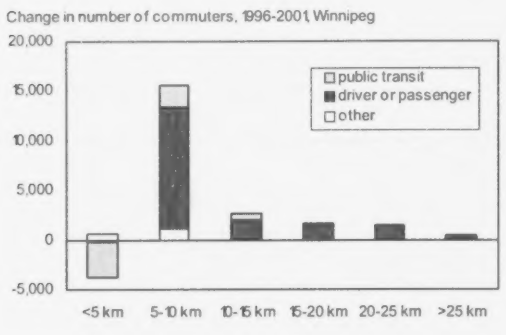
Figure 22: Net change in number of commuters commuting by mode and distance from city centre (in kilometres), 1996-2001

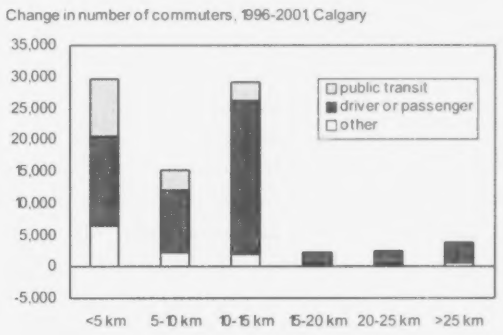


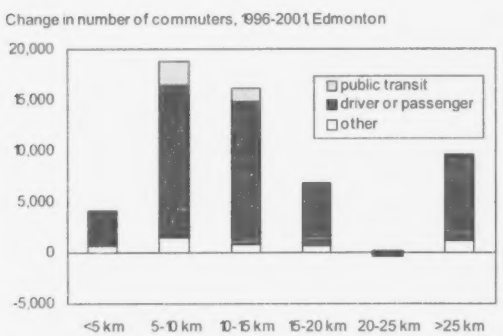












See Statistics Canada Catalogue no. 89-613-MIE-No.7 for more details.
Source: Census of Canada, 1996, 2001.

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